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The North Carolina
High School Bulletin

N. W. WALKER, Editor

VOLUME I

1910

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THE NORTH CAROLINA
HIGH SCHOOL BULLETIN

N. W. WALKER, Editor.

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VOL. I. FIFTY CENTS A YEAR. NO. I.

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The Significance of the Public High School Movement in the Southern States ....*N. W. Walker*
Choosing a Profession ....*Dr. F. P. Venable*
What Becomes of Our High School Students..*Supt. R. H. Latham*
Meetings of Public High School Principals......................
The University Summer School for Teachers..................

It is evident that the high school has come to be an immensely significant factor in our American life: raising our standard of living; giving currency to higher ideas and ideals; sending great numbers of our young people on to the universities and so accentuating in our age the character of a university age; increasing the range of selection in all occupations calling for the intermediate and higher grades of intelligence; and forcing the wider differentiation of our curriculums by the very immensity and variety of the demands for instruction which must be satisfied.

It becomes in an important sense the mission of our secondary schools to help our people of all social and industrial grades and classes to understand one another, for they help the schools of all kinds and grades to understand one another. Especially is this true of the public high school which lays its hand directly upon both the primary school and the university—Dr. E. E. Brown: *The Making of Our Middle Schools.*

JANUARY 1910.

GENERAL ANNOUNCEMENT.

THE NORTH CAROLINA HIGH SCHOOL BULLETIN will be published quarterly by the University, and sent free of cost to superintendents, principals, and high school teachers of the State who may wish to receive it. It will be devoted to the building up of North Carolina High Schools. The BULLETIN will publish from time to time, in addition to other matters of interest to high school teachers, pertinent discussions of secondary school conditions, problems, etc., and will endeavor to make itself helpful in whatever ways it can. It will welcome from the school men of the State suggestions looking to its larger usefulness.

The North Carolina High School Bulletin.

VOL. I. FIFTY CENTS A YEAR. NO. I.

THE SIGNIFICANCE OF THE PUBLIC HIGH SCHOOL MOVEMENT IN THE SOUTHERN STATES.

N. W. Walker
Professor of Secondary Education in the University of North Carolina

PART I.

No one who is conversant with present-day educational conditions can for a moment doubt that a new day is dawning for the secondary school. The attention of school men, now as never before, is directed sharply to the high school and its problems. Particularly is this true in the southern states. During the next decade we shall see here in the South a more rapid expansion and development of our high school system than any section of our country has for a like period yet enjoyed. And with this rapid growth must come increased efficiency. Thus the problem of high school building with us becomes doubly hard for the next decade: we must not only provide the schools, but we must at the same time make them efficient. To develop muscles of iron during a period of rapid physical growth is by no means an easy task.

In order to appreciate the significance of the movement for better high school facilities in the South, and in our own state in particular, it is necessary to understand the relation of the southern movement to the larger national movement which has been in progress for the past two decades. A brief review, then, of the development of secondary education in America will better enable us to understand this relation and thus to see the entire movement in its proper light. I wish then briefly to review this national movement, to indicate the relation of the southern movement to it, and to observe conditions in North Carolina in particular as representative of those in the other southern states.

Some provision for secondary education was made in Massachusetts as early as the middle of the seventeenth century, and soon thereafter like provision was made in other New England states. Yet up to the middle of the nineteenth century there were probably not more than a dozen secondary schools in the United States maintained at public expense. About 1850, or shortly thereafter, public high schools began to multiply rather rapidly in the North and a little later in the middle West. From 1850 to 1880 the number increased from a dozen to about 500; in 1890 the number had grown to 2,526; in 1898, to 5,315; and in 1908, to 8,960.

In 1876, when the United States Bureau of Education first gathered information concerning public high schools, there were reported in these schools 22,982 pupils, or 23.77 per cent of the pupils enrolled in all the secondary schools of the United States. At this time all the public high schools were in the larger cities. No provision was yet made for public high schools in the country or in the smaller towns. Statistics have been gathered every year since from these schools, but no effort was made to gather information concerning all the public high schools until 1889-1890. In 1880 the number of public high schools had increased to 26,609, or 25.96 per cent of the enrollment; in 1890 the number had grown to 202,936, representing 68.13 per cent of the enrollment in all secondary schools; in 1898 it had increased to 449,600, or 81.03 per cent of the enrollment; and in 1908, to 770,456, or 89.37 per cent. Between 1890 and 1896 the number of public high school pupils in the United States increased 87 per cent. In 1908 the public high schools gained in enrollment over the preceding year 19,375 students.

Owing to the fact that no effort was made to get full information concerning all public high schools until 1889-1890, the statistics gathered prior to that date are not sufficiently complete to serve as a basis for estimating the growth of these schools during the decade 1880-1890. The number of public high school pupils in 1880 was so much greater than that reported to the Bureau of Education that no reasonably accurate estimate of the increase in number during the decade in question can be made. The statistics gathered since 1890, although not absolutely complete, are full enough to indicate with a reasonable degree of accuracy the remarkable growth of public high schools for the past two decades.

Along with this rapid increase in the number of public high school pupils, as might be expected, there has been a decrease in the number of private high school pupils. The private high schools reached their maximum attendance in 1894, when they enrolled 118,645 pupils. In 1898 they had dropped to 105,225; and in 1908, to 91,625. The number of private high schools continued to increase up to 1895, when there were 2,180 schools. In 1908 the number of private high schools had fallen to 1,320. In 1887 the public high schools enrolled 80,004 pupils, and the private high schools enrolled 83,160. At this time the two classes of schools were nearer together in point of attendance than they ever were before or have been since. In 1876 the private high schools enrolled 76.23 per cent of the secondary school pupils in the United States; in 1880 they enrolled 74.04 per cent; in 1890, 31.87 per cent; in 1898, 18.97 per cent; and in 1908, 10.63 per cent.

Many ardent advocates and supporters of private and denominational secondary schools have seen in this rapid increase of public high schools, and especially in the corresponding decrease of private and denominational high schools, much cause for alarm, and in some sections have invoked much opposition to the public high school movement. But the movement has gone on, nevertheless, and it will continue to go on, although its progress may here and there be stayed or impeded for a season by such opposition. There can be no doubt that the weak, inefficient private school is rapidly passing and that it will soon pass altogether; and there can be just as little doubt that the strong, efficient private school is now flourishing and that it is going to survive. Even this type of school may for a while yet continue to decrease in number, but it is not going to perish from the earth. Nor ought it ever to perish. But there are two fundamental lessons that its advocates and directors must learn: (1) The school that is going to survive must be made efficient and kept so; and (2) It must regard itself, and so conduct itself, as a public servant.

In the South, and in our own State in particular, there has been too much working at cross purposes in our educational efforts. And as a result there has been incalculable lost motion. This fact we are at last about to realize. Don't understand me to say that the private and denominational schools have been responsible for all this. They have been responsible only in part. We are about to see, too, that the educating of a people in a democracy is a great business enterprise big enough and important enough to enlist and to unify all the forces that are working for social betterment. An educational system is not a disjointed, incoherent, or dead thing. It is a living, growing, working organism, athrill with life and energy and responsive, or it should be, at least, to the demands made upon it by the changing conditions of the life out of which it springs and of which it is a part. It may be healthy and strong, or it may be diseased and weak, according as its various members are able to perform their varied and proper functions. If a vital organ is diseased, the whole system is affected and its efficiency correspondingly decreased. Harmonious co-operation, then, is a lesson that must be learned by all educational agencies of whatever type.

If this is so, then the supporters of private schools, instead of finding cause for alarm in the rapid development of the public high schools, should find reason for encouragement, for any educational revival is bound to help efficient schools of whatever type. Certain it is that people are paying more attention to their schools than ever before; and, unsatisfactory as is the status of secondary education at this time, we may rest assured that the high school of the near future is going to be an institution of some strength and character and that it is going to meet passably well the demands made upon it.

In attempting to give a terse summary of the conditions of secondary education in America, Mr. Kemp, in his recent *History of Education,* uses these words: "Nothing better attests the healthfulness and vigor of educational interest in the United States than the chaotic state of secondary and higher education and the financial support they command. The schools of these grades are very numerous, and apparently defy accurate classification. They owe their existence to the practical needs and ambitions of the people, and from these they derive their character rather than from any traditional norm. They are, therefore, as varied as are the sections of the country in which they exist, and it seems well-nigh impossible to find any educational need which they do not supply. Such enormous sums of money are invested in them as no other country in the world has ever devoted to similar service." To say then that our secondary schools are in a transitional stage of development is but a trite remark. But out of this seeming chaos is gradually coming better organization, system, order, higher standards, and finer adjustment. We are beginning to see that, "The problems of the American high school are specific," to quote Dr. J. F. Brown. "They differ from those of the elementary school below and those of the college, or university, or technical school above. The experience of the last fifty years has revealed them; it has also developed a considerable body of knowledge concerning them, which every high school teacher should possess before entering upon his work. This knowledge will not solve all his individual problems, but it should at least make him aware of their existence and suggest the solution which he must himself work out." And the high school men are fast working out some of these problems which have recently been revealed.

We have seen that the agitation for increased high school facilities during the 80's had by 1890 developed into a well-defined movement national in its scope and tendency, and that the decade from 1890 to 1900 was, for the public high schools, a period of remarkable growth and expansion. There were many forces at work that helped to accelerate the movement during this and the succeeding decade. Our rapid industrial expansion and increased national prosperity, the universal tendency toward better and more compact organization in all fields of co-operative endeavor, and the attendant effort to practice a stricter economy in the management and maintenance of all public-service institutions were forces that contributed no little part in giving impetus to the movement. Then the various educational associations, particularly the N. E. A., by their moral support encouraged it in no small way. But these very organizations were but the manifestation of what the great educational world was beginning to ponder in its heart.

Again, the system of accrediting schools by the universities and colleges, inaugurated by the University of Michigan in 1871 and followed by numerous other institutions, has had a decided influence in stimulating and encouraging the development of public high schools. The system met with much favor, and by 1896 had been adopted by 42 universities and 150 other institutions. But after all, great as has been the influence of these forces, the greatest impetus has been given to the movement by the investigations of our leading students of education and sociology. Harris, Eliot, Hall, Brown, Dewey, Parker, Hinsdale, Butler, McMurry, DeGarmo, Angell, and a score of others that might be mentioned directed the attention of the American public to the importance of the secondary school and the significance of the high school period in the child's life as attention had not been called to these matters before. Prior to about 1890 attention seems to have been centered more upon the individual teacher than upon the school as an agency for social betterment. And it was mainly through the investigations and writings of some of these men that the American public became aware that it had a conscience with regard to the secondary school.

To show how general, not only in America but even in Europe, was the movement for better secondary schools, let me quote the following paragraph from Dr. E. E. Brown (The Making of Our Middle Schools, 1902), at present U. S. Commissioner of Education: "The consideration of tendencies in secondary education just now brings us very near to the heart of our civilization. For the past ten or twelve years we have seen middle school problems occupying a central place in the thought of the great culture nations. We have had a decade or more of middle-school reforms. The great milestones in the progress of these reforms have been the December Conference at Berlin in 1890, and the revision of the Prussian curriculums which followed; the report of our own Committee of Ten [an epoch-making document in American secondary education] in 1893; the report of the British Parliamentary Commission on Secondary Education in 1895, and the establishment of the English Board of Education to give effect to recommendations which this commission presented; the report of the Committee on College-Entrance Requirements, of our National Educational Association in 1899; the report, in 1899 and 1900, of the commission appointed by the French Chamber of Deputies; the Brunswick Declaration and the Kiel decree, of 1900; the establishment of the College Entrance Examination Board and the Commission on Accredited Schools in the year just past [1901]. It is a most remarkable record, and warrants the belief that we have been passing through one of the greatest formative epochs in the history of secondary schools. In America it has been, not a time of crisis, as in the nations of Europe, but rather a time of unparalleled progress."

Let us now turn to the Southern States and see what was happening there during this great flowering out period in the nation's secondary schools. We will study the following nine States south of the Potomac—Virginia, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Louisiana. The statistics gathered from the public high schools of these States for the early 90's are so incomplete (there being only 122 schools reporting in 1890, with an enrollment of 7,989 pupils) that they will not serve as a basis for estimating with any degree of accuracy the public high school development in these States, say, from 1890 to 1898. Public high school development was going on in these states in the 90's, to be sure, for many of the cities and larger towns were then beginning to establish high school departments in connection with their graded schools; yet the following paragraph taken from the report of the U. S. Commissioner of Education for 1876, so far as North Carolina is concerned, might as well have been written in 1898:

"Of academies and high schools, in the memorial of Dr. Craven already quoted, there are said to be 34 within the State [North Carolina]. With the exception of the higher departments of the few graded schools in the large towns, the greater part of these institutions are said to be private enterprises or denominational schools, with no similarity of organization, no unity of work, no organic connection with the schools below them or above them, and no responsibility whatever to any general superintendence. The same resources judiciously organized, with legal relation to other schools, the doctor says, would confer a great benefit upon the general culture and scholarship of the State." Suppose we take, then, 1898 as the point of departure for studying public high school development in the South and see what progress has been made since then.

Table I.—Showing the increase since 1890 in the number of public high schools in nine southern states reporting to the U. S. Bureau of Education and the increase in the number of pupils reported:

	1890		1898		1908	
	Schools	Pupils	Schools	Pupils	Schools	Pupils
Virginia..	41	2,059	66	3,911	160	7,790
Tennessee.	15	960	93	5,357	102	7,165
North Carolina ..	4	349	14	892	100	4,856
South Carolina ..	8	524	85	3,312	99	4,308
Georgia...	15	1,676	105	5,454	163	9,346
Florida.	10	509	24	1,054	74	2,414
Alabama.......	12	375	48	2,577	108	6,955
Mississippi	11	694	85	3,472	121	5,820
Louisiana..	6	837	20	1,755	54	2,888
Total..	122	7,989	540	27,784	981	51,557

Table II.—Showing the increase since 1876 in the number of public high schools in the United States reporting to the U. S. Bureau of Education, the increase in the number of pupils reported, and the per cent of all secondary school pupils enrolled in the public high schools for the years indicated:

U. S.	1876	1880	1890	1898	1908
Schools........	(?)	500(?)	2,526	5,315	8,960
Pupils........	22,892	26,609	202,963	449,600	770,456
Per Cent..	23.77	25.96	68.13	81.03	89.37

From the foregoing tables we see that in 1898, when the public high schools of the United States enrolled 449,600 pupils, those of the nine southern states considered above enrolled only 27,784; and in 1908, when the public high schools of the Nation reported an enrollment of 770,456, those of the nine Southern States mentioned reported 51,557. Thus, during the decade 1898-1908, when the enrollment in the public schools of the United States increased 71.36 per cent, in these nine southern states it increased 85.2 per cent.

As stated above, public high school development in the South was going on in the 90's, but it was confined wholly to the cities and larger towns. Tennessee, South Carolina, Georgia, Alabama, and Mississippi all made substantial gains in enrollment; in North Carolina, Virginia, Florida, and Louisiana the gain was slow. It may be noted in passing that in 1890 two States, Virginia and Georgia, reported about one-half of all the public high school pupils enrolled in the nine states.

The new public high school movement in the South did not become general nor well-defined until about four or five years ago. Since that time all the southern states have been waging a campaign for rural public high schools, and, although the movement is only in its infancy, some real progress has been made during the last few years. During this period, too, the city and town high schools have entered upon a new era in their development. They are becoming better correlated with the schools both below and above them; they are adopting higher standards and are becoming better organized; they are trying to adapt themselves to the needs of the life and conditions about them and to adjust their courses of instruction more to the needs of the individual pupil; in short, they are rapidly becoming more and more efficient, and as they thus improve they are securing better financial support.

Lacking full and exact information concerning the very recent rural high school development in several of the nine states we have studied, we may review briefly the progress made in North Carolina for the past two or three years and regard this as fairly representative of the progress of the several southern states for this period.

In 1898 there were only 14 public high schools in North Carolina that reported to the United States Commissioner of Education, and they reported only 892 pupils. The same year 111 private schools reported 5,142 pupils. In 1908 there were 100 public high schools that reported, with an enrollment of 4,856, and 37 private schools, with an enrollment of 3,315.

Up to this point I have been following the reports of the U. S. Commissioner of Education. From now on I shall use for North Carolina the figures contained in my *First* and *Second Annual Reports* to the State Superintendent of Public Instruction, for the years ending June 30, 1908 and 1909.

The first year the rural public high schools were opened (1907-'8) there were 145 schools in operation, with an enrollment of 3,949 students; the second year (1908-'9) there were 160 schools with an enrollment of 5,282 students, an increase of 34 per cent over the preceding year; this year there are 175 schools in operation, and a conservative estimate based upon the preliminary reports places the enrollment for the current year at about 7,000. Last year there were 1,563 boarding pupils and 303 public school teachers enrolled in these rural high schools. There were 23 schools that enrolled 20 or more boarding students, and 7 that enrolled 30 or more. These facts show that the public high schools are beginning to reach out and make their influence felt even at this early stage of their development, and that they are also getting hold of the people they are expected to reach. They indicate, too, that much greatr demands are going to be made upon these schools in the near future. If these demands are to be met, provision must be made to increase the teaching force, to enlarge the material equipment, to put up larger and more modern buildings, to add mess-halls and dormitories, and to introduce courses of instruction in agriculture, home economics, and other practical subjects. All this resolves itself into a question of more money, but these are the people's schools and the people are going to support them.

During the past eighteen months 12 handsome new brick buildings have been erected for the accommodation of public high schools (and the elementary schools in connection with them), at a total aggregate cost of $92,300. The total value of the school property of these twelve schools is $111,000. There have been four good wooden buildings erected during this period at a cost of $9,100. The total value of the school property of these four schools is $12,000. This gives a total of 16 buildings in eighteen months, costing $101,400, and a total property value for the sixteen schools of $123,000. This summary does not take into account the numerous cheaper wooden buildings, ranging in cost from $500 to $1,250. There are 15 other public high schools housed in good brick buildings, with a total property value of $119,300. These buildings were erected for the most part before the public high schools were organized or during the first year of their operation.

Table III.—Showing the number of rural public high schools in North Carolina and their enrollment for 1907-'08 and 1908-'09, the number of city and town high schools reporting to the State Superintendent of Public Instruction for those years, and their enrollment, and the total number of public high schools (city and rural) and the number of pupils reported:

1907— 08						1908—'09					
SCHOOLS			ENROLLMENT			SCHOOLS			ENROLLMENT		
Rural	City	Total	Rural	City	Total	Rural	City	Total	Rural	City	Total
145	32*	177	3,949	2,449*	6,398	160	64	224	5,282	5,407	10,689

*There were 13 City Schools (with an enrollment of 746 pupils) that were included in the 145 rural public high schools since they received State funds for high school instruction and were open to students of the rural districts.

Numerous other facts might be given to show the growth of our rural public high schools since they were first opened in 1907, but the foregoing are sufficient to indicate that the high school movement has taken hold with a pretty strong grip and that it is making reasonably satisfactory progress. Of course there are many things in connection with these schools that are not as we would have them. But this is nothing more than was to be expected. Some errors will be made—have already been made. But there is an earnest effort to encourage the good of the system and to eliminate the evil or reduce it to a minimum. Certain it is that with adequate support and proper direction and encouragement the system of rural high schools can be made to exert a tremendous influence upon the social, industrial, and educational development of the State and of the South.

The development of these schools is the prettiest and the most important piece of educational work the South now has immediately before it. It is a constructive work and calls for men of ability and aggresiveness. Mere imitative capacity in the high school prncipal must give way to constructive ability. If the instruction given in these schools can be made—and it can—to "strike the note of reality" and thus to minister to our actual needs as they now exist, another decisive victory for popular education will have been won, and the South will have brought itself into harmony with the new and progressive tendencies of the educational world.

[To be continued.]

CHOOSING A PROFESSION*

Dr. F. P. Venable
President of the University of North Carolina

This was the problem which was filling my thought one afternoon as I was seated on a pile of lumber on the New Orleans levee, watching the mighty flood of the Mississippi roll by. I was a young teacher, my college course yet incomplete, and no decision reached as to what I should do with my life. I had thought and puzzled often until I wearied of the indecision.

As I sat there Goethe's Marching Song, as Carlyle calls it, came to my mind, and I wrote on the white pine board:

Choose well: your choice is
Brief and yet endless.

Between two infinite silences, as Carlyle says, our span of life lies; the infinite past or silence of the stars, and the infinite future or silence of the graves. The choice is forced upon us as to what we shall do with the brief space granted from the infinite.

Now, from this it might be gathered that I sat there and after a wise and deep deliberation settled the whole qustion, chose my path and followed it. But the truth is, I did nothing of the kind. I was just the ordinary, healthy young dreamer. I wrote down the wisdom of the sages, approved of it as sounding well but was far too callow to make it in any real sense my own. I suppose there was more of a shallow intellectual pride in the fact that I knew a smattering of Carlyle and Goethe than any deeper influence.

And so after all, like so many other young sailors on Life's River, I largely drifted into my choice, but the clear decision and the purpose of manhood came within a few months after that autumn afternoon by the Southern river, and I went back to college to the task of preparation for my chosen work.

I doubt whether I can be of any great service to other

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drifting souls who are awaiting their decision. Certainly, I would not dare choose for any other person or seek to influence his choice too deeply. If the advice and suggestions of one who has travelled a bit farther along the stream can be of any service to others, I will gladly share this experience, but it could do no good and possibly grievous wrong for any other to take the responsibility and make the decision which rests upon each individual alone.

For quite a number there is no trouble about a choice, and a decision is often reached in early years. It is almost a matter of heredity or brought about by associations and family traditions. Others show an unmistakable turn or capacity for certain things, as art or commerce or mechanics, but the greater number have no such clear indication to follow. They may have developed no great or decided talent or taste. They may be strong and capable in many ways and are embarrassed by the richness of their gifts, or they may be just like the average run of us, no special talent, no great strength, but willing to be useful and anxious to do a fair day's work that shall count for something in this busy world of ours.

One of the difficulties in the choice comes from the multiplicity of professions opened up by the activities of complete modern life, so very different from the old times with the simplicity and the narrowness of the choice opened for college-bred men. Not to enter one of the four so-called learned professions, law, medicine, teaching or the ministry (the last two ordinarily combined), was almost looked upon as a waste of one's advantages. It would take a long time to count up all the openings nowadays. The college training is but the preparation for the highest usefulness in practical life, and there is no limitation upon what the college man may turn his hand to with just hopes of the highest success. Mind, I do not say that it insures success. There is a more potent factor in success than mere training, but the training gives the best start.

A college training does not train directly for all forms of outside activity. It is simply impracticable to do this; though, of course, the training should be as direct as possible. After all, for most of us, a certain period of apprenticeship is necessary. Still, under proper advice, such selection of courses can always be made as will fit one especially for this profession or that, and hence it is of great value to come to some sort of a determination about after work as soon as it can wisely be done. The opinion among university men is that specialization should begin with the third collegiate year. Still roundness of culture should not be sacrificed to specialization; for after all, most of the training is in apparently useless subjects or at least in such as are not directly applicable to after work. Their object is to give the needed poise, self-command and self-mastery which fits for any emergency, as Dr. Brown, the U. S. Commissioner of Education, has recently expressed it.

College training has two great objects then. First, to fit one to be a man among men, a cultivated man among cultivated men, a good, capable man, trained to make the most of every power or talent he possesses. Such a man stands intellectually as the trained athlete stands among the ordinary mob of untrained men. Secondly, it trains specifically for every profession or specialty within its reach.

Now, how shall the choice be made? Perhaps I look at the matter too much from the standpoint of a chemist; but I believe in the careful application of tests. Two elements must first be tested for, fitness and taste. For any sort of success fitness must be considered; the tool fitted for its trade, the man for his work. The misfits of life are among its deepest and most prolonged tragedies—square sticks in round holes, ministers who are anything but preachers or shepherds, lawyers who would make much better merchants, farmers who should have been mechanics, etc. I overheard a prominent Southern editor discourse *ore rotundo* on this subject once, finding great fault with the colleges because they did not turn out their finished product duly labeled journalist, banker, merchant, agent, etc., instead of the all-including, all-concealing bachelor of arts. The college faculty to be capable of doing so marvelous a work would have to be gifted with a divine insight into the heart and motives of life. Certainly, I for one would decline the job. I have grown to seriously distrust my power of telling what a boy is good for since so many of those whom I thought good for little or nothing have turned out excellent physicians, lawyers, legislators and college professors.

And then as to taste: a man can do a thing which is distasteful to him and do it successfully, and any earthly job will bring occasional tasks of that kind which are sufficiently trying, but surely it cannot often be necessary for a man deliberately to choose the lifelong tragedy of uncongenial, disliked work. He might almost as well choose a wife on the same principle.

Mind, I draw a distinction here between dislike based on uncongeniality and lack of sympathy and more freakish caprice. Also that kind of liking which comes from ease of pursuit or freedom from hardness and difficulties is not worthy. But it still remains true that to be in love with one's work gives the highest assurance of success. It may begin with mere liking, but it is apt to end with pride and devotion.

There are many ways in which the tests may be applied. Analyse the professions to see what special qualities are required and then test for these. Thus, in the various branches of engineering, capacity for mathematics is an essential, also a fondness for scientific observation and attention to detail. The first year or so of college work will easily try one along these lines. Medicine demands fondness for science, skill in laboratory manipulation, a turn for investigation and other fine properties of heart and mind; the law on one side calls for ability as a pleader and debater, logical analysis, a clear, quick insight into the truth through all the maze of tangled evidence, and the power of understanding and handling men. It is needless to mention further instances. The way is to pick out a successful man in any profession and see what qualities contributed to his success.

For many men, and I believe the highest type of men, the choice of a profession rests upon the greatest service which they believe they can render to their fellow men. The question to them reads, with such and such abilities, how can they be most useful? This implies a careful looking over the field to see where men are most needed. The harvest indeed is plenteous but the laborers are few. It may involve self-sacrifice, it may mean doing things for which there is no great liking. The pleasure lies in the results of the labor and in the service rendered.

According to the Eastern saying, the eye and the heart of a man is fixed on one of these things, gold, power or heaven. The vision may well include all three—in due perspective. Solomon prayed for wisdom, but the Divine Giver added wealth and power. I hope that the sons of the University will all prosper in their chosen callings. I rejoice when any one of them is trusted with power and authority, but the jewels in the crown of this Mother of strong sons are those who, having chosen nobly, have fought a brave fight and kept the faith.

WHAT BECOMES OF OUR HIGH SCHOOL STUDENTS?

SUPT. R. H. LATHAM, Weldon, N. C.

The following is a summary of the main points in a paper under the above title before the Department of Superintendence of the Southern Educational Association at Charlotte. The chief purpose of the investigation was to get some first-hand information as to how much attention is being paid by superintendents and principals to the progress of students through our public high schools. Nothing final is claimed for the figures or conclusions given here, but it is hoped that they point the way for similar and more extended researches.

Blanks were sent to 200 schools, 82 city and town high schools, and 118 rural high schools. Replies were received from 96 schools, 44 city and town high schools and 52 rural high schools. The 96 schools represent 61 counties, the 44 city and town high schools representing 35 counties, and the 52 rural high schools representing 39 counties. Six city and town high schools and 14 rural high schools were not able to furnish records complete enough for our use. So our investigation is confined to the reports of 76 high schools in 55 counties with an enrollment of 4,503 students, 38 city and town schools in 33 counties with an enrollment of 3,246 students, and 38 rural schools in 33 counties with an enrollment of 1,257 students. The city and town high schools are scattered well over the State; the rural high schools are largely east of Charlotte.

Our investigation justifies the following conclusions:

1. More attention should be given by superintendents and principals to the progress of pupils through the schools.

2. Six city superintendents and fourteen rural high school principals went to new fields of work this year, and found no records at all, or data insufficient to answer the questions proposed.

3. It ought to be the duty of every superintendent or principal to keep records showing at least the name, sex, parent, and age and grade of pupil upon entrance, and these records should be continued to show whether the pupil is promoted or not from year to year; when the pupil withdraws an entry should be made, giving the cause.

4. For high school students the facts called for in (3) should be given, and in addition, a complete and clear statement of the work done in each subject in each year of the high school. If the student withdraws before the completion of the course, that fact and the cause should be stated. If the student completes the course, that fact should be stated, and, if known, his whereabouts at the opening of the next school year should be given. Whenever possible, this record should be continued for three of four years.

5. Much loss of time and many mistakes could be avoided by the keeping of such records. They will be of great service to the superintendent or principal making them; and professional courtesy, if nothing else, demands that we leave behind a record of the work done, for the use and convenience of our successor.

6. Each superintendent or principal should be required to file each year with the Department of Public Instruction, the names and addresses of the graduates of his high school. This list should be accessible to the proper authorities in colleges of recognized standing upon payment of cost incident to copying. This plan would be far more satisfactory to the colleges than their present ineffective method of sending blanks to the different schools; and there would thus be no further demand upon superintendents and principals for such information.

7. The word "graduate" in North Carolina means a student who has done anywhere from 12 months of high school work under one teacher, to 36 months of work under four teachers. This is all wrong, and the colleges are in a measure responsible for, and ought to help to remedy, the wrong. In

1908-1909, there were thirty-two 2-year graduates in seventy-five high schools, and nineteen of these are in college this year.

8. Less than one in eleven graduated from the city and town high schools, and less than one in twenty from the rural high schools in 1908-1909.

9. In 1908-1909, thirty-eight city and town high schools turned out 268 graduates, and 69.8 per cent of these are now in college. At the same time, thirty-eight rural high schools turned out 51 graduates, and 62.7 per cent of these are in college now.

10. The colleges got 219 of our high school graduates of 1908-1909. This represents 5.7 per cent of the city and town high school students, and 2.5 per cent of the rural high school students.

11. The colleges took 162 of our high school students of 1908-1909 without a certificate of graduation. This represents 3.3 per cent of the city and town high school students, and 4.3 per cent of the rural high school students.

12. In our city and town high schools, for 100 girls there were only 75 boys in 1908-1909; in the rural high schools for 100 girls there were 89 boys.

13. Of the city and town high school graduates, the percentage of girls in college is the larger; the contrary is the case among the rural high school graduates.

14. Out of 100 students in the city and town high schools in 1908-1909, only 53 are doing the work of the next higher grade in 1909-1910; in the rural high schools only 40. If those students who graduated and are in college this year are regarded as doing the work of the next higher grade, these figures become 59 and 42, respectively.

15. Out of 100 students in the city and town high schools last session, 10 are doing the same work over this year; in the rural schools, 15.

16. The private schools got 2.6 per cent of the city and

town high school students, and 2.1 per cent of the rural high school students.

17. By removal from the community, 2.3 per cent of the city and town high school students and 2.6 per cent of the rural high school students are out of school or in a different school this year. This tendency among people in rural communities is significant.

18. The city and town high schools lost 2.6 per cent and the rural high schools 4 per cent of their students because those students or somebody said they had to go to work.

19. The desire of going to work took 2.4 per cent of the city and town high school students and 3.5 per cent of the rural high school students.

20. Lock of ability coused 1.4 per cent of the city and town high school students to withdraw, but the percentage among the rural high school students was less than 1.

21. Indifference removed 1.3 per cent of the rural high school students, but the percentage among the city and town high school students was less than 1.

22. The rural high school students furnished more than 1 per cent of their number to the teaching profession. These are not graduates.

23. For unknown causes, 13 per cent of the city and town high school students and 19 per cent of the rural high school students of 1908-1909 are out of school this year.

Table I. The enrollment of students in 38 city and town high schools in North Carolina in 1908-1909, and the distribution of these students in 1909-1910. Thirty-seven of these schools reported 2nd year students, twenty-eight 3rd year, and eighteen 4th year.

	1st yr.		2nd yr.		3rd yr.		4th yr.		Tot'l
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Enrollment in 1908-1909........	649	839	422	575	220	296	107	138	3246
These students in 1909-1910									
In next year of high school	351	512	222	361	96	183	*	*	1725
In same year of high school	100	126	37	40	21	12	7	11	354
In college as graduates....	0	0	4	12	16	18	59	78	187
In college without graduating.	16	11	14	20	12	20	7	8	108
In private schools.............	22	13	18	17	10	3	1	2	86
In business colleges.	2	4	1	1	0	1	0	1	10
In conservatories of music	0	2	0	1	0	1	0	0	4
Out of school on account of									
Death	1	3	1	0	0	0	0	1	6
Sickness	4	8	3	5	2	2	0	1	25
Marriage	0	6	0	1	0	1	0	0	8
Reaching age limit	0	0	1	0	0	0	0	0	1
Expulsion	5	0	3	0	0	1	0	0	9
Removal from community	22	21	13	10	6	2	0	0	74
Necessity of going to work	24	22	23	13	0	2	0	0	84
Desire of going to work	24	10	21	2	16	2	3	2	80
Sickness of parent	1	7	0	0	0	1	0	0	9
Lack of ability	13	18	1	11	2	1	1	0	47
Teaching	0	5	0	0	0	0	0	0	5
Indifference	0	0	3	0	0	0	0	0	3
Unknown causes	64	71	57	81	39	46	29	34	421

Table II. The enrollment of students in 38 rural high schools in North Carolina in 1908-1909, and the distribution of these students in 1909-1910. Thirty-five of these schools reported—second-year students; twenty, third-year; and five, fourth-year.

	1st yr.		2nd yr.		3rd yr.		4th yr.		Tot'l
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Enrollment in 1908-1909	335	367	181	205	54	76	20	19	1257
These students in 1909-1910									
In next year of high school	141	178	67	85	11	15	*	*	497
In same year of high school	80	73	13	21	2	5	0	1	195
In college as graduates	0	0	0	3	7	7	11	4	32
In college without graduating	10	7	7	14	5	5	2	4	54
In private schools	3	10	7	1	4	2	0	0	27
In business colleges	0	4	3	2	0	1	0	0	10
In conservatories of music	0	1	1	3	0	1	0	0	6
Out of school on account of									
Death	0	0	0	0	0	0	0	0	0
Sickness	2	1	0	1	0	0	0	0	4
Marriage	2	4	0	6	1	1	0	0	14
Reaching age limit	1	0	1	1	0	0	0	0	3
Expulsion	0	0	1	0	0	0	0	0	1
Removal from community	11	13	7	2	0	0	0	0	33
Necessity of going to work	20	16	8	2	3	1	1	0	51
Desire of going to work	20	2	10	8	1	3	1	0	45
Sickness of parent,	0	1	0	0	0	1	0	0	2
Lack of ability	3	2	3	2	0	0	0	0	10
Teaching	1	4	2	2	2	3	0	0	14
Indifference	0	9	1	0	1	6	0	0	17
Unknown causes	41	42	50	52	17	25	5	10	242

Table III. The number of graduates of 38 city and town high schools, and of 38 rural high schools, in 1908-1909; the number in college; the number missing, and the percentages.

	GRADUATES			IN COLLEGE			MISSING		
CITY AND TOWN HIGH SCHOOLS.	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
First-year students	0	0	0	0	0	0	0	0	0
Second-year students	11	15	26	4	12	16	7	3	10
Third-year students	23	32	55	16	18	34	7	14	21
Fourth-year students	83	104	187	59	78	137	24	26	50
TOTAL	117	151	268	79	108	187	38	43	81
Percentage	43.6	56.4		67.5	71.5	69.8	47	53	
RURAL HIGH SCHOOLS.	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
First-year students	0	0	0	0	0	0	0	0	0
Second-year students	0	6	6	0	3	3	0	3	3
Third-year students	10	12	22	7	7	14	3	5	8
Fourth-year students	14	9	23	11	4	15	3	5	8
TOTAL	24	27	51	18	14	32	6	13	19
Percentage	47	53		75	51.8	62.7	31.6	68.4	

Table IV. The present distribution, in per cents, of 3,246 students in 38 city and town high schools, and of 1,257 students in 38 rural high schools, in North Carolina, in 1908-1909. [Blanks (—) indicate per cents less than one.]

	CITY AND TOWN			RURAL		
	Boys	Girls	Total	Boys	Girls	Total
Enrollment in 1908-1909	1,398	1,848	3,246	590	667	1,257
Percentage	43	57		47	53	
Percentage in 1909-1910						
In next year of high school	40.7	57.1	53.1	37.1	41.7	39.5
In same year of high school	11.8	10.2	10	16	15	15.5
In college as graduates	5.6	5.8	5.7	3.1	2.1	2.5
In college without graduating	3.5	4.2	3.3	4.1	4.5	4.3
In private schools	3.7	1.9	2.6	2.4	2	2.1
In business colleges	—	—	—	—	—	—
In conservatories of music	0	—	—	—	—	—
Out of school on account of						
Death	—	—	—	0	0	0
Sickness	—	—	—	—	—	—
Marriage	0	—	—	—	—	—
Reaching age limit	—	0	—	—	—	—
Expulsion	—	—	—	—	0	—
Removal from community	3	1.8	2.3	3	2.2	2.6
Necessity of going to work	3.4	2	2.6	5.4	3	4
Desire of going to work	4.6	—	2.4	5.4	2	3.5
Sickness of parent	—	—	—	0	—	—
Lack of ability	1.2	1.6	1.4	1	—	—
Teaching	0	—	—	—	1.3	1.1
Indifference	—	0	—	—	2.2	1.3
Unknown causes	13.5	12.5	13	19.2	19.3	19.2

MEETINGS OF PUBLIC HIGH SCHOOL PRINCIPALS.

A series of meetings of no little significance have been the conferences of Public High School Principals which Superintendent Joyner has this year been calling in connection with the District Associations of County Superintendents. Three meetings have already been held. The East Central Division met at Greensboro, November 5th and 6th; the North-eastern Division, at Greenville, November 12th and 13th; and the Western Division, at Asheville, December 13th and 14th. The South-eastern Division is called to meet in Goldsboro early in February. The West Central Division will probably not meet this session, as the year is so far advanced that little good could be accomplished. Similar conferences will be continued next year, and probably a general meeting of Public High School Principals for the entire State will be held in the early fall.

These meetings have afforded an excellent opportunity for the principals to discuss together, in an informal way, with the State Superintendent of Public Instruction and the State Inspector of Public High Schools, some of their definite problems and to have answered such questions relating to the administration of the high schools as they might wish to ask. In this way they get a better understanding of what the high school movement really means, are better prepared to attack their problems in the light of larger experience, are better enabled to see matters of administration from the point of view of the State, and thus to work together with greater unity of purpose.

No formal programs have been prepared for these meetngs, but the general order of work and the topics discussed have been about as follows:

First Day—A joint meeting of the county superintendents and public high school principals, at which meeting topics of common interest were discussed; such as, the Relation of the Public High School to the County System of Schools, The Necessity for Co-operation Between the Principal and the Superintendent, The Necessity for Keeping Complete Records, and For Making Prompt and Accurate Reports (financial and statistical).

Second Day.—A meeting of the high School Principals, at which such topics as the following were discussed: The Admission, Gradation, and Promotion of Pupils; brief reports from the various principals as to the progress of their schools; The High School Library and the Literary Society; How to Advertise the School Through Catalogs, Circular Letters,and the Local Press; and various other topics which the principals brought up for discussion. At the close of each meeting an organization was effected, and officers chosen.

In the East Central District there are twenty-one counties and fifty-one public high schools. Forty of the principals were present at the Greensboro meeting. The officers chosen for this district are: President, Dr. Stephen B. Weeks, Trinity High School; Vice-President, M. B. Dry, Cary High School; Secretary-Treasurer, E. McK. Highsmith, Chapel Hill High School; Press Correspondent, Herbert Scholz, Macon High School; Executive Committee, the officers named above, and K. H. McIntyre, Holly Springs High School.

In the North-eastern District there are twenty counties and twenty-eight public high schools. Twenty-two of the principals were present at the Greenville meeting. The following officers were chosen: President, J. R. Ware, Seaboard High School; Vice-President, A. F. Leighton, Macclesfield High School; Secretary-Treasurer, K. R. Curtis, Severn High School; Press Correspondent, B. O. Shannon, Ahoskie High Schools; Executive Committee, the officers named above and J. E. Dowd, Aulander High School.

In the Western District there are seventeen counties and twenty-four public high schools. Nineteen of the principals were present at the Asheville meeting. The officers for this division are: President, W. H. Hipps, Barnardsville High School; Vice-President, E. N. Thorn, Iotla High School; Secretary-Treasurer, Frank Edmondson, Glen Alpine High School; Press Correspondent, R. G. Anders, Madison Seminary; Executive Committee, the officers named above and G. O. Rogers, Rosman High School.

In the South-eastern District there are twenty counties and thirty-four public high schools; and in the West Central, twenty counties and thirty-eight high schools.

These public high school principals are almost all college-bred men, young, hopeful, enthusiastic, and earnest. The part they are to play in the next decade in advancing the cause of popular education is going to be not a small part.

THE UNIVERSITY SUMMER SCHOOL FOR TEACHERS.

The University Summer School for Teachers will open on Monday, June 6th, and continue in session for six weeks, closing on Saturday, July 16th. Courses will be offered in English, History, Mathematics, Physics, Latin, French, German, Secondary Education, Primary Methods, and Library Administration. These courses will be conducted by specialists in their respective fields,—mainly by members of the University Faculty.

The instruction, though confined for the most part to the elementary and secondary school branches, will be of the same high character as that of the regular term of the University. The work is designed for earnest workers, and there will be no fads, frills, shams, or pretenses about it.

No tuition fees will be charged teachers or those preparing for teaching. Only a nominal registration fee of three dollars will be charged, which will entitle students to enter any of the courses offered and in addition will give them free use of the University's Library and Physical Laboratory. The actual expenses are very moderate,—but little more than half than at almost any other summer school that might be selected.

The earnest teacher or student who wishes to spend a part of his summer in quiet, intensive study, under competent instructors, will find here excellent opportunity.

A bulletin containing detailed information as to courses of study, instructors, expenses, etc., will be ready about March first. If you wish to have this bulletin sent to you or to some friend who might be interested in the Summer School, write to Dr. Thomas J. Wilson, Registrar, Chapel Hill, N. C., giving name and address, and it will go forward as soon as it is ready for distribution.

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N. W. WALKER, Editor.

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It should be the aim of the secondary school, I take it, by instruction and discipline to lay the foundation for that cultivation and inspiration that mark the truly educated man. In endeavoring to attain this ideal, the secondary school must not lose sight of the fact that it is educating boys who are to assume the duties and responsibilities of citizenship, and who must, in all probability, pursue a specific calling for the purpose of gaining a livelihood. The fact that the secondary school has also a selective function to perform is often overlooked. Yet this is most important. Secondary school pupils are adolescents, and their tastes and capacities are rapidly forming and finding expression. To afford opportunity for these to develop, and to encourage them to develop along the best and most effective lines, is an obvious duty of the secondary school.—DR. NICHOLAS MURRAY BUTLER: *The Meaning of Education.*

APRIL 1910.

GENERAL ANNOUNCEMENT.

THE NORTH CAROLINA HIGH SCHOOL BULLETIN will be published quarterly by the University, and sent free of cost to superintendents, principals, and high school teachers of the State who may wish to receive it. It will be devoted to the building up of North Carolina High Schools. The BULLETIN will publish from time to time, in addition to other matters of interest to high school teachers, pertinent discussions of secondary school conditions, problems, etc., and will endeavor to make itself helpful in whatever ways it can. It will welcome from the school men of the State suggestions looking to its larger usefulness.

The North Carolina High School Bulletin.

VOL. 1 FIFTY CENTS A YEAR. NO. 2.

SCIENCE TEACHING.*

W. C. Coker, Ph. D.

Professor of Botany, University of N. C.

Ladies and Gentlemen:—You will remember that at our last meeting, this Academy appointed a committee to inquire into the teaching of science in the schools of the State. In compliance with my duty as a member of that committee, I began some investigation into the matter, and soon became so interested in the problems of science teaching that I have decided to make it the subject of my remarks this evening. I shall confine myself largely to a more general point of view, leaving the discussion of details to the report of the committee, of which Professor Edwards is chairman.

During the lifetime of some of you who are here tonight there has come about a mental and moral reformation that has ennobled, and will still further ennoble the record of human history. The creative force that has made possible this reformation has been an increase in knowledge—a deeper and truer knowledge of the world we live in. So have we come forth from the darker ways and been brought to "a great light in a fair room."

In this new light many things have become clear to us that before were obscure. We now see that material things should be the servant of man, and not his exacting master. We see that this world may be a fit and beautiful home. That in its order and meaning is the purest inspiration for mind and spirit. We now see that the obscure and frightful shapes, the haunting terrors, the sinister forebodings that have cast a gloom over the history of the world were but the phantasmagoria of a disordered dream. Never was man so sure of himself, so confident of his power over nature. Freed from the burden of old superstitions, he lifts up his head like a young

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*Presidential address before the *North Carolina Academy of Science*, at Wake Forest, Apl. 28, 1910.

man ready to run a race, strong in his new youth, unshackled, free, the open road before him, leading wherever he will.

Now, for the first time, we may say of him, "He is made one with nature, there is heard his voice in all her music."

The new conditions that we find confronting us have brought with them difficult problems and heavy responsibilities, and on none do they press with more weight than on the educator. When we realize that the human mind is almost certainly no more capable inherently than it was three thousand years ago—that its increased power is not due to increased strength, but to a greater heritage of knowledge and feeling that must be acquired by each in turn; when we realize that this vast inheritance is increasing at an incredible rate and that on the extent to which each can secure his own and put it to use in his life will depend whether he is to be a little higher than the brutes or a little lower than the angels; when we realize this, how obvious it becomes that there is no subject that so greatly concerns the whole of society as the problem of education.

I believe it to be true that in present conditions, the distribution of knowledge is far more important than any further addition to the general store. Suppose that to every person could be given a one-thousandth part of our accumulated heritage. How incredible a change would appear on the face of the earth! But it is, alas, too true that for the vast majority of this generation, as well as for all that have passed, it will be said that

"Knowledge to their eyes, her ample page
Rich with the spoils of time did ne'er unroll."

In considering the subject of school instruction, we are met at the beginning with two great difficulties which make impossible the arrangement of a course that would be acceptable to all the schools. These are, first, the varying needs of the different communities; and second, the necessity of meeting the needs of the pupil who is going to college and also of the one who is not. The first of these difficulties admits of no solution except the adjustment of the curriculum of every school to fit the needs of its own environment. In practice it will be found possible to reduce the various communities to a certain number of classes and to arrange for each class a course of study and work that would approximate the needs of the majority of its children. But after all is said, there are no two communities that are just alike, and every school must, in the end, to some extent work out its own salvation. As this is largely an agricultural State, the majority of our schools must meet the demands of an agricultural community, and it is a matter of the most transcendent importance that these communities be given good schools and that the right subjects be taught in them. At the next meeting of the North Carolina Teachers' Assembly, there is to be a discussion of the arrangement of courses for rural conditions and for commercial and industrial ones as well. We cannot expect these problems to be solved for good either now or at any future time. They will come up for renewed discussion and adjustment so long as there is progress and vitality in the State; only in death are all problems solved.

Can the North Carolina Academy, as a collection of men with a certain point of view, offer any suggestions that may be of use to other students of these questions? I am not sure that we can, but in order to bring the matter before you, I beg leave to present the subject as I see it.

The instruction given in the schools should be such as will best fit the boy or girl for a successful life and useful citizenship. The subjects must be those that will be of most value as far as possible to *all* the pupils. Some subjects are of fundamental value in all communities, others must be adjusted to special conditions. We will all agree, I believe, that in the subects of fundamental value, may be included: English language and literature, Arithmetic, and History (when properly taught, which was not the way it was taught to me).

What next? You will also agree with me in saying that nothing can be of more universal importance than hygiene and sanitation. Every individual is interested in his own health and the health of the community. The growing recognition of this fact is one of the most conspicuous triumphs of the scientific attitude, and if we examine it carefully, we see that it contains the germ of all that is fundamental in the new philosophy. For the factors that promote physical health are in equal degree conducive to mental and moral health. Such factors, for example, as a clean and attractive environment, good nourishment, out-door life with a healthy activity of muscles and faculties, interest in one's work, and last, but not least, serenity.

I have recently had framed for my laboratory the pictures of eleven biologists (eight botanists, two zoölogists, and Charles Darwin, who was everything). In getting up the labels for the pictures, I was suddenly struck with the long average life of the group. Their ages were as follows: 54, 70, 71, 73, 73, 73, 76 (and still living), 77, 78, 85, 90. An average of 74 years and six months. There is something more than a coincidence here. The physical health of these men was correlated with a high degree of mental and moral health.

It is hard for us to realize the immense change in attitude in this respect in the last sixty years. As a typical point of view of the old days, I shall quote from Professor Frederick A. Porcher, of South Carolina. Writing in 1852, he said: "The truth is, that diseases, fevers particularly, come from God; and to what end we know not precisely, but a good one we may be certain. If there were no fevers provided for us, we would be deprived of one of the means of quitting this world; and it is worse than useless to speculate upon the causes which generate this disorder."

No interference with nature for this old gentleman. As in the well known story of the Alderman and the Gondola, he would "let nature take her course." So also thought that dear old Quaker lady who was well known for her moral suasion in the early days of Camden, S. C. "Why people will go to war and try to kill each other is more than I can understand," she says. "Do they not know that if they only wait a few years, they will all die anyway?"

From the Bulletin of the North Carolina Board of Health on "Sanitary Sunday," we get the following facts, and we shall do well to ponder them:

In the War with Spain the American army of 107,000 men, had 20,100 cases of typhoid and 1,500 deaths. One-fifth had the disease; one in sixty-eight died with it.

In the war with Russia the Japanese army of 1,200,000 men had 310 deaths by typhoid; one in 4,000.

The American army took no precautions against flies and polluted water, the Japanese army did. Result: American soldiers—1 in 68 died of typhoid; Japanese soldiers—1 in 4,000 died of typhoid.

Why this difference? Why this shameful spectacle of a great people who, priding itself on science and progress, proved hopelessly deficient in the moment of greatest need? The trouble was not with a lack of knowledge, but in the failure to apply it. The soldiers did not know, and the officials that did were either indifferent or hampered by a lack of system. It is one of the weaknesses of a democracy that, in moments of need, it does not make use of its best knowledge, wisdom and skill. Its hope must lie in the education and elevation of the common people, in whom is both its weakness and its strength.

There are as yet, only a very few who even dimly perceive the immense progress made in the last one hundred years in the improvement in health and the prolongation of life. Says Senator Owen: "Scientific hygiene and increased knowledge of the laws relating to health have had a very striking effect upon the prolongation of human life throughout the world." From the report of the Committee of One Hundred of A. A. A. S., we gather that "At present in Massachusetts, life is lengthened at the rate of fourteen years per century; in Europe, about seventeen years; in Prussia, the land of medical discovery and its application, twenty-seven years; in

India, where medical progress is practically unknown, the life span is short, (twenty-three,) and remains stationary."

The great work that the State Board of Health is now doing to develop an interest in public health is one of inestimable benefit to the people, and we can join them in the earnest recommendation that sanitation and hygiene be thoroughly taught in every school in North Carolina.

Having augmented the length of our days, it will next concern us to add to their quality, to enhance their beauty and value; and I, for one, am convinced that there is nothing that will so facilitate this end as to bring ourselves in sympathy and understanding with nature. If, in the days of our youth, before the impending shadows have drawn near, we have not cleared our vision to perceive the abiding glory of the world about us, then are we indeed withdrawn from the purest fountain of our inspiration, from the truest source of life's renewal.

It is not possible in the common schools to give the child even an introduction to science, as such, but an attitude can be secured that would be permanent, and he can be brought somewhat to realize the orderliness and beauty of Nature and the possibilities of so shaping his life as to harmonize with her laws. It is evident to me that the study of nature should begin in the lowest forms and continue through all the grades of the common school. The instruction in hygiene and sanitation should be a part of the more extended inquiry, and the child should be conscious, at all stages, of the continuity of the work and of its close and essential relation to his daily life. Nowhere, in the entire system of education, is there greater need of wisdom than in the order and conduct of such a course of study, and that teacher must indeed be a consecrated one who would bring it to its best fruition.

So much, then, as to the subject of study in the common schools. I should like to go on and enter into some details of the nature work of the common schools, but this is not possible now. There is a large and helpful literature on this subject with which every teacher should make himself familiar.

In the high schools the two main difficulties that we have already mentioned begin to make themselves felt. The traditional detachment of educational method, the academic attitude, the intellectual aloofness, will no longer be accepted as of dignity and value. The demand is for a close and organic relation between the school, on one side, and the home, the garden, the farm, the shop, and the market, on the other. And this demand is not tentative and appealing, but insistent and compelling. We must meet this demand or we shall be overwhelmed.

What, then, is to be done? We cannot give everything. From the vast inheritance what is to be chosen as of most value to the boy or girl who can have but little?

Is it not obvious that of the wealth at our disposal the few coins that we are able to give should be selected with the utmost care—that they may be current in the place where they are to be used, and not tarnish or depreciate with passing time? Not wampum or cowries, or salt, or gum-drops, but precious metal that will shine in use. A great deal of foreign paper is circulated among us. It does not pass easily, it does not circulate readily, it is often rejected by those who have what we want to buy, it fails to secure for us both the material and spiritual values that we need most sorely. And, like all depreciated currency, it is much in evidence. The teacher issues it, the politician uses it, the preacher passes it, the lawyer handles it, the orator banks on it. Let us retire some of this paper and issue in its place a good solid American coin dated 1910.

What knowledge is most worth while? Did you ever question yourself carefully on this point? What did you have in school and college that you would least do without? It is surprising how little of fact thus acquired has really been put to use in after years. In truth, we have lost the greater part of it, and are scarcely conscious of any deprivation. I doubt if there is a person here tonight who could pass even the college entrance examinations. I am sure I could not. The training, the attitude, the judgment, the strength, the knowing what-not-to-believe (which to any mind is one of the surest tests of a sound education) these may remain, but the fact, in large measure, is gone. This means that most of the information acquired in our school days has not been put to use in actual living, and I believe that subjects could be found that would be of far more use than several that are now insisted on.

The proportion of high school students that can go to college is so small that it is obviously the main duty of these schools to devote its means and energies to the best advantage of the majority that cannot.

Of what use to this great majority is mathematics, above the simplest arithmetic, the history of ancient wars and conquests and intrigues, and the whole of the foreign languages? After a single year out of school the great part of these subjects is gone and forgotten.

If we could eliminate these subjects, time could be found for a better preparation for the exacting demands of modern life. For the rural community the nature work of the common schools should be logically expanded into the study and practice of farming, gardening, carpentering, home making, cooking, and sewing. The work in sanitation would lead naturally to the development of a sense of social responsibility and duty that could also be expressed in the aesthetic possibilities of community life, to the beautifying of home and village. Civics and government could find a basis on the results of such study as this.

The sciences, such as physics, chemistry, zoölogy and botany, should be given as much attention as possible, but time cannot be found to study more than one or two of them from the point of view of pure science. I believe it best to approach them all from the point of view of the arts that the school touches, as sanitation, agriculture, home economics, cooking, etc.

The principles of all these sciences can be taught and applied at every stage, and the student can be brought to see their essential connection and close similarity of method.

In the case of city schools and of those of manufacturing or commercial communities, the details must be different, but the principles are the same.

The immediate and practical necessity for a closer approach of the school to life is becoming generally realized throughout the State. An expression of this was the recent action of the Farmers' Union in appointing a committee to consult with the State Superintendent of Education in regard to the teaching of agriculture in the schools. Mr. Joyner, with his usual wisdom, recommended that agricultural teaching of an efficient sort be introduced into the present State high schools and that the farmers as far as possible coöperate with them to make this system a success. He deprecated the establishment of separate agricultural schools, and in this, I believe he is right; for, from what I can learn, such schools that have been established in Alabama and Georgia have not yet proved an unqualified success.

President Nicholas M. Butler says: "It will be a grave error to set vocational training and liberal training in sharp antagonism to each other. The purpose of the former is to pave the way to some appreciation of the latter and provide an economic base for it to rest upon. The equally grave error of the past has been to frame a school course on the hypothesis that every pupil was to go forward in the most deliberate and amplest fashion to the study of the products of the intellectual life, regardless of the basis of his own economic support."

To attempt a thing that is too new, that breaks too completely with the methods and traditions of the past, is dangerous. In doing so, we are apt to find ourselves standing like Burke's Man-without-prejudice: "Hesitating in the moment of decision, skeptical, puzzled and unresolved."

Any new idea that is big enough finds itself pressed for room, and in the cumulative strength of a long incubation, it thrashes about and makes for itself a wide path. But the maternal yolk having become exhausted, it soon finds itself dependent on the manifold life about it for protection and nourishment, and sets up a harmonious relation with its neighbors. No great thought can be seen at once in its true perspective or take its proper place in the world of ideas. At first it looms large and portentious. To some it assumes a frightful, to others a pleasing shape. One looks up at the approaching cloud and sees nothing but the tumult and menace of the storm; another exclaims with Calaban: "The clouds methought would open, and shower riches upon me."

Adam at first thought that Eve was an angel; later, he found that she was a very attractive, if somewhat frail, human being.

There are some who say that the more modern or practical ideals of education do not lead to thoroughness. They are for the old drill, the tread-mill thoroughness whose only observable grist is a meagre salary for the teacher, and somewhat stronger treading muscles for the pupil. But there is one thoroughness of the Anabasis, and another thoroughness of the lexicon, and another thoroughness of the earth, and one thoroughness differs from another thoroughness in glory. You remember Herbert Spencer's remark to the young man who beat him at billiards? He himself was a good player and prided himself on the fact. When this young man had beaten him badly, he turned with some irritation and said: "Young man, it is a credit to anyone to play a good game of billiards, but to play the game that you do, argues a misspent youth."

And what do we mean by thoroughness? Is it not to see clearly, to proceed exactly, and to persevere unto the end? It is partly a matter of temperament and partly of training—or rather, I would say, of education, for as I understand and value the quality, it must have in it a large element of earnestness, tenacity and faith, none of which can be secured through training alone. If we stop a moment to think, it becomes obvious that the humblest and most menial occupation is as fit a course for the teaching of thoroughness as the most complex and esoteric one. Have any of you tried to raise chickens? Well, if you have, and have made the most of it, you have had as exacting a training in thoroughness as if you had mastered the intricacies of the Chinese alphabet. Is Burbank thorough, who never went to college? Is James J. Hill thorough, who never knew a high school? One teacher might encourage thoroughness by a course on the plant cell, another by the careful collecting, naming and mounting of all the plants in a given square rod, another by the study of the structure, development and needs of two or three common plants, as cotton and corn. All may promote thoroughness. Which is doing what is most worth while for the average boy or girl in the exacting demands of North Carolina life today?

It is time to put an end to the absurd practice of classifying courses into two groups, one for information and one for training. There is no such legitimate distinction. If an "informational" course is not of first-rate training value, it is of second-rate informational value, and should be reorganized and better taught. If a "training" course is not of first-rate informational value it should be sent to its last rest in the ash-heap.

And now comes the question: What is to be done about the college entrance requirements? The much used phrase: "articulation of high school and college" is one that suggests a joint, and we must confess that it is a joint that is often painfully gouty, from too great stuffing of mental pabulum on the one side and its imperfect digestion on the other.

Must we have two courses in the high schools, one for the great majority and one for the small minority? To a certain extent we must, undoubtedly. The professions and many special arts and occupations demand a quite different preparation from the one that is best fitted for the average man. But we are confronted with the immediate practical difficulty of lack of means to carry out this program. In such a case the school should see its duty clear and neglect the smaller for the larger number. But there is another side to this, a problem that cannot be overlooked. Suppose, first, that a boy finds after taking the more practical courses, that he can change his plans and go to college. He is not prepared to enter. Suppose, again, that he expects to go to college, but does not want to spend his time on the comparatively useless part of the college requirements. It seems to me that the answer is clear. The colleges should so change their requirements as to admit these students, and should arrange such courses as will harmonize with their preparation, and assure them the essential advantages of a college education. Says a representative of the University of Illinois: "The chief purpose of your high school is to prepare the boy for the business of making a living, and the University believes, on the whole, that it will require as good a training to make him a success in life as it will to make him a success in the University. We propose therefore, to leave you free to determine the needs of your community and to prepare your boys and girls for success in the community. We shall then admit them to such courses in the University as will best supplement the education you have given them, and best fit them for larger spheres of influence and of service." The University of Illinois has now for some years been acting on this policy, with the result that Mr. S. D. Brooks, superintendent of schools of conservative, academic Boston, has said of it: "From personal knowledge I know that the establishment of an elective system of admission by the University of Illinois has done more to expand the high schools of this great state, or rather, I may say has done more to give them the opportunity of expansion of which they have themselves waited, than all other influences put together."

And again: "Under such a system, both universities and high schools have been free to make every effort to meet the most urgent of community needs, and both have grown in numbers and usefulness at a rate which seems quite unaccountable to our conservative brethren of the east." The University of Illinois has a college of literature and art, and a college of science. For admission to the first, leading to the degree of A. B. they require only three units of foreign language (including ancient and modern) and allow four and one-half units elective. In the college of science, there is one course, leading to A. B., that is designed for general culture and efficiency, and several special courses, leading to B. S., that meet the more technical demands. To none of these courses, either general or special, is any foreign language required for admission. The requirements are:

English language and literature	3	units
Algebra	1½	"
Plane geometry	1	unit
Science	2	units

This leaves 7½ units for elective subjects, giving a possible 9½ units in science accepted for admission.

In the University of Wisconsin, two units of foreign language are required, but there are eight elective units for all courses, and four of these may be in science (exclusive of mathematics).

The University of Missouri requires two units of foreign language for admission to the college of arts and sciences, but allows eight units elective, and in these may be included agriculture, drawing and manual training. Its college of agriculture requires no foreign language.

Cornell University requires four units of foreign language in the college of arts and sciences, but allows five units of elective.

The University of Nebraska requires three units of foreign language but allows 6½ units for elective work, among which are agriculture and bookkeeping.

The University of Michigan requires only one unit of foreign language and allows six units elective.

These examples are enough to show the extent to which the more modern ideas of education are beginning to prevail. It is well to be conservative, but not as conservative as the old lady who could not persuade herself to go to heaven because there were harps there and she did not believe in instrumental music.

Says Chas. E. Chadsey, superintendent of schools of Denver: "The old assumption that the particular courses for which credit in our universities is given is inherently more valuable than others is incorrect. This will from year to year become more patent to all. Modern life, with its ramifications, has developed kinds of thought and study which, while different from the traditional courses, do possess genuine culture value, and develop genuine power." With this sentiment I heartily agree.

How long it will be before our Southern colleges and universities can persuade themselves to meet the demand of new conditions we do not know, but until they do, they will fall short of their opportunities, as builders of efficiency and leaders of civilization.

I should like to discuss a little more fully the details suggested by North Carolina conditions, but time being short, I shall proceed at once to the consideration of several ideas that seem to me of great importance in both school and college teaching.

Until that far-off time, when every home shall be a worthy school, not only of manners and morals, but of intellectual growth as well—an end toward which all the ameliorating energies of society should be directed—until that time, when every home shall be a school, it should be the object of educators to see that in so far as possible every school should be a home.

There can be no more dangerous, as there is no more prevalent, fallacy than that education is to be considered as a thing apart, that education can in any way be separated from experience in the deepest sense, that experience which convinces the mind, forms and energizes character, builds up faith, and makes strong the will. Only in so far as education is thus made one with life, can it be an education for power, can it be in any sense an education deserving the name.

When Dickens drew his pitiful picture of Dotheboy's Hall, he included in it the caricature of one element that, quite unknown to him apparently, contained the germ of a true educational ideal. "Bottiney, a knowledge of plants, when he has learned that bottiney means a knowledge of plants, he goes and knows 'em," says Squeers.

The laboratory and field methods of Dotheboy's Hall were not up to the standard we would set, but even then it was better to have weeded the garden than never to have gone into the garden at all.

Is the knowledge gained by the study of books and things to be of use only in thought and word, or is it to be translated somehow into action? It is easy to see how the sciences can be applied to action and a moment's thought will show that the same is largely true of the languages, literatures and humanities. The application is equally important, whether it be in the rotation of crops, the digging of a tunnel, the screening of doors, the casting of a ballot, the planting of shrubs, the contribution to charity, or the ventilation and decoration of the schoolhouse. Of this much we may be sure: given certain information to start with, and we will either use it or lose it.

Granted that any knowledge to be useful must in some way be related to action and experience, my contention is that the application should not be deferred to "some far off divine event," but that every effort should be made to correlate with experience and express in action every subject of instruction as a necessary part of its thorough acquisition. In no other way can knowledge become real, vital and integral with character; only thus can it add a finer fiber to the heart, and to the spirit a more noble aspiration.

Why was the recent shirtwaist workers' strike in New York so largely encouraged and influenced by Vassar students? Because they believe at Vassar in transforming social theory into social service.

The teaching of subjects unrelated to experience and to each other is what I would call the Colonial System of education, i. e., the acquisition of foreign territory before the intermediate regions have been secured, or the command of the seas made sure. This leads to an unstable condition,—there is no harmony in the state, as there is no mutual understanding of law and history. *Education should consist of the annexation of contiguous territory.* To illustrate this, suppose a child has been given a hatchet and taught how to use it well, but had not previously been taught the value of trees and fruits, or a proper consideration of the rights of others. The result is, George Washington and his little hatchet, and consequent injury, not only to property but also generally to his own character, when he tells the lie.

Among the educational eddies and backwaters into which we have drifted, is the *cul de sac* (most obvious in the college) that Tolstoi has called "the snare of preparation." I do not mean to be irreverent when I call your attention to One who, when he separated himself from the world, and withdrew into the wilderness, was tempted of the devil; and it is not everyone who would have the strength to say, "Get thee hence, Satan."

I do not believe that education should be a preparation for life, nor an "epitome of life," as President Nichols of Dartmouth calls it, but rather the freest expression of life itself. It should be as natural and as genial a response to the warming influences of harmonious life as the unfolding of new leaves with each recurring spring.

To prepare for life by withdrawing from it, how strange a conception! But this is what is done when a student is removed from the normal activities and experiences of daily life and placed in the desiccated atmosphere of an academic desert. Here, suddenly freed from most that is real, separated from the duties and responsibilities, the restraining and formative influences of the home, the boy finds himself gathered together with others of his kind, into a community that never was on sea or land. The deficiencies of this artificial community are so keenly felt that, in an effort to mitigate the conditions, there has resulted the establishment of so great a multiplicity of "campus activities" that, as President Woodrow Wilson has said, "the side shows have swallowed up the circus."

The social and moral virtues are best developed where there is the most demand for their exercise, and the demand is greatest where all sorts of folk are brought together. In the home and home community, old and young, men and women, parents, grandparents, and children, must meet each other in mutual needs, concessions, and demands; and only under such conditions can gentleness, helpfulness, unselfishness, love, and all such graces that add quality to the day find the fullest opportunity for growth and expression. If any one class or sex is collected together and separated for a time from the other elements of a normal community there is at once a distinct lowering of the social and moral tone. We have all noticed this, I am sure. The tone of the smoking-room is below that of the house party, the tone of the house party is below that of the home.

This truth I would call the Law of Segregation, and would express it thus: *Manners and morals descend in direct proportion to the segregation of sorts.* It would follow from this that a single isolated individual, with no contact with any others of his kind, would have no manners or morals, and this is obviously true.

There is one more point that I should like to make. I believe that every boy and girl, during the whole time they are "getting an education," in school or college and afterwards too, for that matter, should spend a part of each day in productive labor. This would be in no sense a burden to them, but, rather, a wholesome diversion; for there is much wisdom in the observation of Socrates that, "If I had my way I would set the young folks to work, and send the old men to school, for action is the joy of the young, but philosophy should be the portion of the old." It should be so arranged that this work would be a source of income to the pupil or his family, and also bring out the need of more knowledge for greater efficiency. The most responsive subject for education is he that feels the need of it. He wants to know, who needs to know.

From day to day I am asked many questions, both of fact and of application. How many of these come from the students? Not one in a hundred. The questions are from men and women who are in contact with the vital facts of living.

He is in error who would contend that the education that I have been speaking of this evening is deficient in power to build character, expand the imagination, or elevate the spirit. I believe that it will lead the student to think clearly, to feel humanely, and to act efficiently, and may we not hope that, in the end, it will bring him to perceive the majestic pageantry of things seen, the vast creative power of things unseen? To contribute in some measure toward the fulfillment of this hope, how worth while! how wonderfully worth while!

[Since the above was delivered, the newspapers report an address by President Woodrow Wilson, of Princeton, that is so closely in accord with certain ideas I have expressed that I am tempted to append the following quotation from it:

"The American college man must become saturated in the same sympathies as the common people. The colleges of this country must be reconstructed from top to bottom. The American people will tolerate nothing that savors of exclusiveness. . . Only those who seem able to promise something of a moral advance are able to secure a following."]

DEFICIENCIES IN HIGH SCHOOL MATHEMATICS.

M. H. STACY
Associate Professor of Civil Engineering, University of N. C.

The request to know where colleges find the greatest deficiencies in high school mathematics has a serious purpose and demands a serious answer. And yet, any answer which may be given in a short article will be inadequate, for the deficiencies in individual cases can be discussed intelligently only in the light of individual causes. However, it will do no harm and may, perhaps, prove helpful to look at the question in a general way.

To do this, let us first enquire, what is the aim of a course in mathematics in college? We may find an implied answer to this by reference to a catalogue which reveals two facts: first, all students are required to study mathematics for at least one year; and secondly, all scientific students must continue this study for two or three years longer. These courses lead to the different degrees of A. B. and B. S., so that there is evidently an effort to meet the needs of two classes of students. And yet, in the freshman year, the study is identical, and no differentiation is made until a later period, so that we may reasonably infer, that in the opinion of college authorities, the training necessary for one class will at least be acceptable for the other. But what must be the nature of the course required for a scientific student whose study in the freshman year is merely an introduction or gateway into a larger field? To this we may answer without hesitation, it should be a study of mathematical principles and not merely the solution of isolated examples. To be sure, the principles and theory must be enforced and illustrated by the solution of examples, but the emphasis should be placed upon the why's and wherefore's of the solution and not upon the result obtained from an answer book.

If I may illustrate from my experience as an instructor, I have assigned this exercise to a freshman class and have received nearly as many results as there were students: "Will you tell me at the next recitation what A divided by *zero* is?" That may not be a fair question, but it tests thoroughly a knowledge of the principle of division from arithmetic. Again, I have seen students prepare a recitation in exponents in a few minutes and recite perfectly for the day; then in a few months fail in the application of the same principles in logarithms. The explanation is easy. The answers to the problems in exponents could be obtained by the simple processes of addition, subtraction, multiplication or division, but the students did not understand why, and it did not become a vital part of their knowledge. The professor of philosophy said to me sometime ago, "People are interested in the fundamentals." And this is preëminently true in mathematics.

My answer, then, to the request from the high school teacher is this: *The greatest deficiencies among students entering college arise from the fact that many of them do not know the principles upon which the problems they solved in the high school depend.* When they know these their college work is easy and generally pleasant. When they do not, the college must repeat the work of the high school. It is no easy matter to teach a course in mathematics so as to inculcate the principles that it contains. It requires skill and almost infinite patience, but this is the only way leading to that broader scholarship, which really counts long after the teacher's work has ended.

SUMMER SCHOOL ANNOUNCEMENT.

Francis Preston Venable, Ph.D., LL.D., President.

Nathan Wilson Walker, A. B., Director of the Summer School. (Professor of Secondary Education in the University of North Carolina).

ENGLISH.

Thomas P. Harrison, Ph.D., (Professor of English in the North Carolina College of Agriculture and Mechanic Arts).

HISTORY.

Joseph Gregoire de Roulhac Hamilton, Ph.D., (Alumni Professor of History in the University of North Carolina).

LATIN.

George Howe, Ph.D., (Professor of the Latin Language and Literature in the University of North Carolina).

FRENCH AND GERMAN.

Adolphe Vermont, A. M., (Instructor in the Romance Languages and Literatures in the University of North Carolina).

MATHEMATICS.

Marvin Hendrix Stacy, A. M., (Associate Professor of Civil Engineering in the University of North Carolina).

PHYSICS.

James M. Douglas, Ph.D., (Professor of Physics in Davidson College).

SECONDARY EDUCATION.

Nathan Wilson Walker, A. B., (Professor of Secondary Education in the University of North Carolina).

ELEMENTARY SCHOOL METHODS.

Leila M. Cobb, (Teacher in the Chapel Hill School).

DRAWING.

Mary Goodwin Griggs, (Instructor in Drawing for the Prang Educational Company, of New York City).

LIBRARY ADMINISTRATION.

Louis Round Wilson, Ph.D., (Associate Professor of Library Administration in the University of North Carolina).

THE SUMMER TERM: JUNE 6—JULY 16.

The University Summer School for Teachers will open on Monday, June 6, and continue for a term of six weeks, closing on Saturday, July 16. The school will be in session six days each week, or thirty-six working days.

REGISTRATION.

Registration will begin on Saturday, June 4. All sudents of the Summer School are urged to be present and register on this day, as regular class work will begin promptly at 8:45 on Monday morning, June 6. There are certain preliminary arrangements necessary to be made in the way of selecting courses, securing board and lodging, and getting books, which should be attended to before class work begins. It is much better to be on hand promptly so as to begin with the class than to come in a day or two late.

COURSES OF INSTRUCTION.

During the summer term of 1910 instruction will be offered in the following subjects: English, Mathematics, History, Latin, German, French, Physics, Secondary Education, Primary School Methods, Drawing, and Library Administration. These courses are designed to meet the needs of those teachers who are striving to fit themselves for better service. The instruction is of the same high character as that of the regular term of the University. There are no fads, frills, shams, or pretenses about it. To the earnest teacher or student who desires to spend a part of his summer in serious, quiet study under the direction of competent instructors, splendid opportunities are here offered.

THOSE WHO MAY BE BENEFITED.

Among those who may be benefited by the Summer School may be mentioned the following classes:

1. Teachers in high schools, and those intending to teach, who desire better general training for their work.

2. Teachers who desire special training in any branches offered. The work will be so graded and arranged that a student can make considerable progress by attending two or three summers in succession.

3. Teachers in elementary schools, or those preparing to teach, who wish to improve their general scholarship, or who wish to study the methods used with primary classes in our best schools.

4. Prospective students of the University who wish to make up deficiences in their entrance requirements.

5. Teachers who expect to take the State examinations in July for either the High School Teacher's Certificate or the Five-Year State Certificate.

INCREASING DEMAND FOR HIGH SCHOOL TEACHERS.

The growth of public high schools in North Carolina causes an increasing demand for well-equipped high school teachers and principals. During the past two years the University has had calls for over two hundred men to engage in educational work in this and other Southern states. It has been able to supply barely one-half of that number. This demand for better trained teachers is becoming more and more insistent all over the South, and it means greater opportunity for the teacher who is preparing himself to fill a higher position next year than he filled last. To be able to advance in his profession to ever larger fields of usefulness should be the ambition and constant aim of every true teacher. The University is maintaining the Summer School in order that it may better serve the schools by sending into them more efficient teachers and that it may better serve the teachers by giving them an opportunity to improve their scholarship and thus fit themselves for better work.

EXAMINATIONS AND CERTIFICATES.

At the close of the term regular examinations will be held, and certificates will be issued upon the satisfactory completion of all courses.

Those teachers in the Summer School who wish to apply to the State Board of Examiners for the High School Teacher's Certificate or the Five-Year State Certificate will have an opportunity to take the examinations for those certificates the second week in July at the close of the Summer School. This arrangement will be of especial advantage to teachers who expect to take either of those examinations, as it gives them an opportunity to review thoroughly the main subjects on which they are to be examined, and then to take the examinations at a time when they should be best able to pass them successfully. Teachers who take either of those examinations may be excused from the regular examinations at the close of the term mentioned in the paragraph above.

THE LIBRARY.

The University Library, containing over 54,000 volumes and over 17,000 pamphlets, will be open daily to the students of the Summer School. Excellent opportunities are here afforded the students for wide reading and special research.

THE GYMNASIUM.

All male students of the Summer School will be afforded the privileges of the swimming pool in the gymnasium free of cost.

BOARD AND LODGING.

First-class board and lodging at University Inn (formerly Pickard's Hotel) will be offered the students of the Summer School at $5 a week, or $25 for the term of six weeks. Good board and lodging can be obtained at the village boarding houses at resonable rates, varying from $15.00 to $20.00 per month.

FEES AND OTHER EXPENSES.

No tuition fees will be charged teachers or those who are preparing for teaching, but a registration fee of $3 will be required of all students of the Summer School. Students will be expected to provide themselves with all books and materials required for their individual use in the courses pursued. The texts to be used in the several courses are announced elsewhere in this bulletin. Students may procure their books before coming to the Summer School, or they may get them here at the Chapel Hill bookstores at the regular market prices. Materials for the courses in Drawing will be furnished by the University, and for these materials a fee of $2 will be charged.

CLASS ROOMS.

The classes in English will meet in the English room, Old East Building; the class in Library Administration will meet in the reading room, Library Building; all other classes will meet in Alumni Building, rooms on the second floor.

DAILY PROGRAM.

Chapel Services.—Chapel exercises will be conducted in Gerrard Hall each morning from 9:25 to 9:45. All students are expected to attend these exercises.

SCHEDULE OF RECITATIONS.

8:30. Algebra, American History, Physics 1, German 1, Latin 2.

9:25. Chapel.

9:45. Secondary Education, Primary Methods 1, English Grammar and Composition, Latin 3 and 4.

10:40. Primary Methods 2, Geometry, English Literature, Physics, German 2.

11:35. Drawing 1, French 1, Latin 1.

12:30. Drawing 2, Library Administration, English History, French 2.

Library Hours.—9:00 to 12:30; 3:00 to 4:00.

ANNOUNCEMENT OF COURSES.

ENGLISH.

Dr. Harrison:

1. Grammar and Composition.—Especial attention to the analysis of sentences and the application of the principles of grammar in composition. Frequent written exercises will be required, and the written work will be discussed in the classroom. Text-book: Buehler's *A Modern English Grammar. Six hours a week.*

2. Literature.—The literature accepted for entrance to the leading colleges of the United States will form the basis of this course. Methods of teaching, lectures, readings, and class discussions. *Six hours a week.*

HISTORY.

Dr. Hamilton:

1. The History of England.—Lectures and assigned readings. Text-book: Walker's *Essentials in English History. Six hours a week.*

2. The History of the United States to the close of Reconstruction.—Lectures and assigned readings. Text-book: Hart's *Essentials in American History. Six hours a week.*

LATIN.

Dr. Howe:

1. Elementary Course.—Pronunciation, inflection, syntax of cases and verbs; special study of the subjunctive, indirect discourse, relative and conditional sentences; reading of Cæsar's Gallic War. Text-books: Bennett's *Latin Grammar.* Any standard text of Cæsar. *Six hours a week.*

2. Course in Virgil's Aeneid, I-VI.—Translation and syntax. Text-book: Any standard text of Virgil's Aeneid. *Six hours a week.*

3. Course in Cicero's Orations Against Catiline.—Translation and syntax. Any standard text of the Orations Against Catiline. *Three hours a week.*

4. Latin Composition.—*Three hours a week.*

GERMAN.

Mr. Vermont:

1. Elementary Course.—Grammar, written exercises, dictation, translation. Text-books: Thomas' *German Grammar,* Mosher's *Wilkommen in Deutschland.* *Six hours a week.*

2. Advanced Course.—Review of grammar. Composition, translation. Text-books: Thomas' *German Grammar;* Weselhœfdt's *German Exercises;* Freytag's *Die Journalisten.* *Six hours a week.*

FRENCH.

Mr. Vermont:

1. Elementary Course. Grammar. Reading of easy prose. Text-books: Joynes' *Minimum French Grammar;* Chateaubriand's *Le Dernier Abencerage.* *Six hours a week.*

2. Advanced Course.—Reading of novels and dramas. Text-books: Feuillet's *Le Jeune Homme Pauvre;* Hugo's *Hernani.* *Six hours a week.*

MATHEMATICS.

Professor Stacy:

1. Secondary Algebra.—Lectures and assigned work embracing the introductory chapters and including factoring, simultaneous equations, exponents, involution and evolution, quadratic equations, etc. Text-book: Fisher and Schwatt's *Secondary Algebra.* *Six hours a week.*

2. Plane and Solid Geometry.—Lectures and assigned work. Text-book: Wells' *Essentials of Plane and Solid Geometry.* *Six hours a week.*

PHYSICS.

Dr. Douglas:

1. Elementary Course.—Mechanics of solids, liquids, and gases. Sound. *Six hours a week.*

2. Elementary Course.—Magnetism and electricity; heat and light. Text-book: Millikan and Gale's *A First Course in Physics*. *Six hours a week.*

(Courses 1 and 2 may be taken together.)

SECONDARY EDUCATION.

Professor Walker:

1. High School Curricula and Methods.—Lectures and assigned readings. DeGarmo's *Principles of Secondary Education* and Brown's *The American High School* will constitute the basis of this course. *Three hours a week.*

2. The Theory and Practice of Teaching.—Lectures and assigned readings. This course will be based on Hamilton's *The Recitation*. *Three hours a week.*

ELEMENTARY SCHOOL METHODS.

Miss Cobb:

1. Model Lessons for Beginners.—Model class-work, lectures, and assigned reading. Work with children just beginning school. A class of primary grade children will be organized for the purposes of this course. Lessons in phonics, reading, language work, numbers, nature study, etc., covering the general work of the first grade. *Six hours a week.*

2. Methods and Model Lessons for Grades 2 to 4.—Lessons, lectures, and assigned readings, covering the general work of the second, third, and fourth grades. Sight reading, eye training, ear training, drills on the phonograms. Special attention will be given to the reading and language work of these grades. *Six hours a week.*

DRAWING.

Miss Griggs:

The work will be in two main divisions. In the first division, the work will be given more directly for the teachers of the primary grades, and will be more elementary in character than that of the advanced classes. In the second division, or advanced class, the work will be planned for the needs of the grammar grade teachers. Each course, *six hours a week.*

The course will comprise: (*a*) Pictorial representation with brush and pencil. Form, proportion and appearance of objects will be carefully studied and the principles of perspective given. (*b*) Decorative work and design. (*c*) Construction work and working drawings. This will include the making of useful articles, their decoration, planning, etc. (*d*) Methods of presenting the lesson and adaptation of such methods to each grade.

LIBRARY ADMINISTRATION.

Dr. Wilson and Miss Leatherman, (secretary of the N. C. Library Commission):

Library Administration and Methods.—(*a*) General lectures on organization and management of rural, graded, high school, teachers' association, college, and public libraries; use of dictionary card catalogue, indexes, bibliographies, dictionaries, encyclopedias, and general reference books; preparation for special readings, essays, themes, debates, etc.; selection and ordering of books and periodicals suitable for libraries; preparation of illustrated bulletins; childrens' books and reading. (*b*) Technical lectures on accessioning; classification and book numbers; cataloguing; shelf listing; charging systems; binding, rebinding and mending books; care of periodicals and pamphlets; use of government publications. Practice in the library. Practice and instruction will be given under an instructor at any time during the day to those devoting their whole time to the course. *Six hours a week.*

PUBLIC LECTURES.

Each week during the Summer School there will be one or two special lectures to all students. These lectures will be given by prominent educational workers; they will be upon topics of vital interest to every teacher and will be of genuine help to all.

[For further information, apply to the Director of the Summer School, or to Dr. Thomas J. Wilson, Registrar, Chapel Hill, N. C.]

THE NORTH CAROLINA
HIGH SCHOOL BULLETIN

N. W. WALKER, Editor.

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EDUCATIONAL PLATFORM ....

The problems of the American high school are specific. They differ much from those of the elementary school below and those of the college, university, or technical school above. The experience of the last half century has revealed them; it has also developed a considerable body of knowledge concerning them, which every high-school teacher should possess before entering upon his work. This knowledge will not solve all his individual problems, but it should at least make him aware of their existence and suggest the solution which he must himself work out. * * *

Only within the last two decades has there developed a definite purpose to test scientifically the educational value of different subjects of study and to be governed by the results. It is a difficult problem, one not to be hastily solved, but it should be attempted. There is no more important question before the world of scientific educators to-day than the differentiation of educational values, not only with reference to the studies pursued, but also with regard to the times and methods of pursuing them.—DR. J. F. BROWN: *The American High School.*

JULY 1910.

GENERAL ANNOUNCEMENT.

The North Carolina High School Bulletin will be published quarterly by the University, and sent free of cost to superintendents, principals, and high school teachers of the State who may wish to receive it. It will be devoted to the building up of North Carolina High Schools. The Bulletin will publish from time to time, in addition to other matters of interest to high school teachers, pertinent discussions of secondary school conditions, problems, etc., and will endeavor to make itself helpful in whatever ways it can. It will welcome from the school men of the State suggestions looking to its larger usefulness.

The North Carolina High School Bulletin.

VOL. 1 FIFTY CENTS A YEAR. NO. 3.

SOME POTENT TENDENCIES IN AMERICAN EDUCATION.

J. Y. Joyner,

State Superintendent of Public Instruction of North Carolina.

The relation between education and civilization is so intimate and logical as to constitute an unbreakable bond of cause and effect, and to render it difficult to determine which is cause and which is effect. Changed and changing conditions of life and civilization demand and produce changed and changing conceptions of education. Changing needs arising out of changing life and civilization must be met by changing systems and methods of education.

Any educational system to be vital and useful in a democracy must have its roots in the life and needs of all the people, must be shaped in accordance with the demands of the present and the ideals for the future. Not only must the needs of an existing civilization be met but the seeds of future progress therein must be sown through education in each generation.

In the United States, where the changes in civilization and life have been so rapid and revolutionary, it would be exceedingly strange and distinctly unfortunate were there not continuous educational discussion and criticism, fermentation and unrest, experimentation and investigation, accompanied by changes, in conceptions, systems, and methods of education, some progressive and some reactionary. So long as human needs increase and human life grows more complex, there can be in a democracy no cessation in the development of educational systems. To arrest the progress of education is to arrest the progress of civilization. A static system of education means a static system of civilization.

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*Presidential address delivered before the National Education Association Tremont Temple, Boston, Mass., July 5, 1910.

The thoughtful student may easily discern a few potent and permanent tendencies in American education. The greatest good to the greatest number and equality of opportunity to all are fundamental principles of democracy. One logical demand of democracy, therefore, is a system of education that shall provide equality of educational opportunity for all, and that shall best fit each for the greatest service to the greatest number. Out of this logical demand of democracy has grown the demand for industrial or vocational education. This is the first marked tendency in American education to which I desire to invite your attention.

INDUSTRIAL AND VOCATIONAL EDUCATION.

In the aristocratic civilizations of the past, the educational systems were based upon the idea that education was for the preparation of the privileged few for leadership. In their life and industry, the masses of men were left untouched, unlifted, blind followers in the ways marked out by the leaders. With the growth of the democratic spirit, the recognition of the civil and religious rights of the common man, there dawned a new era of liberty on earth. The common man has slowly come to understand that there is no liberty without learning, no equality of opportunity without equality of educational opportunity, guaranteeing to every child, as an inherent right, the chance to develop to the fullest every power in him for effective service.

With this new conception of his educational rights, the common man first demanded an equal chance for his child to obtain the same sort of education that the favored few alone had heretofore enjoyed. In obedience to this demand a system of free elementary schools was first established, furnishing equality of opportunity to the children of the rich and the poor, the high and the low, alike, to obtain therein the essentials of intelligence.

With increasing intelligence and broadening vision, this common man, in further declaration of his rights, demanded equality of opportunity for his child to enjoy the advantages of fuller development, through higher education, until here in America in most of our States, democracy has constructed an educational ladder, from the door of the hovel and the door of the palace, from the kindergarten to the university, without a missing round, up which every child may climb as far as he has the capacity and the time.

With still increasing intelligence, and broadening vision, this common man with his saving common-sense, has seen that even this system, modeled as it was first largely after the traditions of the past for training for leadership alone, was failing to meet the varied needs of the many with their varying tastes, talents, and environment, that the elementary schools were leading only to the secondary schools, the secondary schools only to the college and the university, the college and the university only into the three so-called learned professions—law, medicine, and theology, overcrowding these professions, misleading many unfit ones into them, leading many of the brightest and most ambitious of the children of the industrial masses away from the pursuits of their fathers, and leaving the major industries of the world, in a commercial and industrial age, largely untouched by skill, culture, and training.

Then came his protest and his demand that his schools and colleges should provide courses of study ministering to the varied needs of the many, to fit the common man to meet and solve the common, everyday problems of his life, and to lift his life to a higher plane of efficiency, service, and happiness. In obedience to his protest and demand, the colleges and universities first established elective courses of study, adapted to the varied talents, tastes, and needs of the varied classes of students. The democratization of the courses of study in the colleges and universities, stimulated by the passage of the land grant acts and the establishment of the land grant colleges for special education in agriculture and the mechanic arts, has grown apace, until they are now meeting the needs of a much larger class of students and touching helpfully, by preparing leaders, many of the major industries of our country.

But ninety per cent of the people of the United States make their living by industrial pursuits. Scarcely five per cent of our population ever reach the college or the university. It was, therefore, but another natural evolution of democracy, but another inevitable demand of the common man, that the courses of instruction in the secondary schools should be adapted to the needs of the ninety-five as well as to the needs of the five per cent, should lead into life as well as into college, and into industrial pursuits instead of away from them.

Originating in a fundamental need of democracy and humanity, enforced by the insistent demand of the industrial masses, who are the people and whose expressed will must at last be the law in a democratic republic, this movement for industrial education must become a fixed part of our educational system everywhere. To guide it wisely is the work and the duty of our profession.

A Word of Warning.

It has its dangers. The apostles of this new truth, blinded by its first dazzling burst of light, in an enthusiasm amounting almost to fanaticism, may lose their educational perspective in their insistence upon industrial or vocational education, may forget that education has any other end but the vocational. In an almost revolutionary reaction from an educational system in which the so-called cultural was made the chief and almost the sole aim of education, under which universal education meant the same sort of education for all sorts of people, it is not unnatural that there should be an over-emphasis of the utilitarian, the vocational, the adaptation of education to the environment and the individuality of every sort of child. In swinging from one extreme that produced men with an education without a vocation, we must not swing to the other extreme that will produce men with a vocation without an education.

In making our schools minister to the new needs of men, arising out of an ever changing civilization, we must not fail to make them continue to minister to the eternal, the common, the universal needs of men arising out of their common nature and the nature of their common life as parent, citizen, member of society. In making them minister more to the material, we must see to it that they also minister sufficiently to the emotional, the imaginative, the aesthetic, in a word, the spiritual. That civilization which does not provide in its educational system for the cultivation of those faculties that fit men to make a life is as surely doomed as is that which fails to provide for the cultivation of those that fit men to make a living.

COMBINE THE CULTURAL AND THE PRACTICAL.

"Every man needs and should be provided two sorts of education—one to fit him to work, the other to fit him to live." The two sorts should be combined in the same system, proceeding side by side in proper proportion. I agree with those who hold that it would be a fatal blunder to permit in our system of American education the establishment and the maintenance of separate systems of vocational or trade schools. There is no place for peasant schools, for separate schools for special classes of any sort, in a democracy. Such a separation of the purely cultural from the purely practical or vocational in our American system of education by the establishment of separate systems of schools would inevitably increase social cleavage along vocational lines, would be uneconomic in effort, time, and money, would prove a disintegrating force, tending to destroy the unity of education and the homogeneity of our population.

By one-sided education for the many we must not drag our civilization down to the deadening level of mere materialism, our average man down to the low plane of a mere machine, fitted to do his work with skill, but without fitness to live his life with happiness and satisfaction to himself and to others. For the preservation of our democracy and the continuous elevation of our civilization, we must hold together in our system of education, from bottom to top, the cultural and the useful, the practical and the ideal, the material and the spiritual, mingled in proper proportion with due regard for the common needs and also for the special needs of all in every community.

You cannot elevate work unless you elevate the worker. You cannot elevate the worker unless you include in the scheme of his education not only special training for skill but also general training for manhood. For the elevation of the industrial masses to their proper social and civic plane in a democracy, you must send into the industries men trained not only to skilful work but educated also to think, to dream, to feel, to love, to lead, to lift. You cannot measure the greatest worth of a man in our democracy by a money-mad world's tape-line of dollars and cents.

"Not on the vulgar mass
Called 'work' must sentence pass,
  Things done, that took the eye and had the price;
O'er which, from level stand,
The low world laid its hand,
  Found straightway to its mind, could value in a trice;

But all the world's coarse thumb
And finger failed to plumb,
  So passed in making up the main account;
All instincts immature,
All purposes unsure,
  That weighed not as his work, yet swelled the man's
      amount:

Thoughts hardly to be packed
Into a narrow act,
  Fancies that broke through language and escaped,
All I could never be,
All men ignored in me,
  This, I was worth to God, whose wheel the pitcher
      shaped."

THE OTIOSE TENDENCY.

A distinctly undesirable tendency of American education is otiosity. It is noticeable in elementary, secondary, and college education. Elementary and college education probably suffer most from it. In the elementary school it is probably an extreme reaction from the old education of grind and drudgery. It threatens, however, to end, if unchecked, in an education of gush and dissipation. The old education of grind was based too much perhaps upon the pedagogy of birch to force the child to unpleasant tasks. There is danger that the new education will become too dependent upon voluntary interest and will develop no power to drive the will to the discharge of unpleasant duties and to the performance of unpleasant tasks.

Will you pardon me if I suggest that I sometimes fear that a fault too common in many of our best American schools is that of making the way too easy for the child, of leading him too constantly along the line of least resistance, of helping him too much, of explaining too much for him, of working too hard to save him from working? In some of our elementary schools it has come to pass that the children are even forbidden to take books home or to do any studying upon their own initiative, in their own way, out of school, and that little time has been left from recitation for independent study in school. May we not expect from such made-easy and rapid transit methods a crop of intellectually spoiled children, flabby of mind, weak of will, superficial in character, inaccurate in scholarship, doing nothing well except what they like to do? Should they not be taught or trained to do well whatever it is their duty to do, and to find a stimulus of interest in tasks at first unpleasant in the very joy of mastering them?

In seeking to make the way too easy for him, in lifting him too quickly over the hard places, in depriving him of the intellectual and moral struggle from which come strength and power for self-guidance and self-reliance, the teacher wrongs the child. Out yonder in life there will be rough places in the road, there will be mountains of difficulty to overcome, there may be nobody there to help. The child should learn in the little world of the school, which is his life then, to face difficulties bravely, to grapple with them courageously, to rely upon himself to overcome them, and to acquire in overcoming them the strength, the courage, and the confidence to overcome other and greater ones. Thus, passing from strength to strength, will he be fitted at last for the greater struggle and the greater victory in the greater world.

May not we modern teachers, with all our boasted new pedagogy, still learn some valuable lessons from the old-fashioned schoolmaster, who, if he taught nothing else worth while, taught industry and duty and obedience and self-reliance, hatred of shirking and willingness to drudge where drudgery was necessary for mastery? There is no mastery without drudgery; there is no strength without struggle.

Things worth having have been divinely hedged about in the moral, spiritual, and intellectual world with difficulty, with hardness even, mayhap that those attaining them might in the very struggle for their attainment gather the strength that will make them worthy of them, and teach them how to appreciate and use them when attained. The wise in all ages have recognized this great truth. It has found expression again and again in the proverbs and the philosophy of pagan and Christian, even in the myths of the child races. The golden fleece still is guarded by the fiery dragon; Jacob still must wrestle with the Almighty before he wins a new name and has power as a prince with God and men; the flaming sword still stands by the gate of Eden, and work, work, is still man's doom and blessing.

A similar tendency to otiosity is noticeable and alarming in college and university education. It is attributable in part perhaps to previous training, but more to the influence of wealth and luxury of fraternity life, athletics, and "soft" elective courses, which offer temptations to ease and idleness that are well nigh irresistible to young men of unformed character and unfixed habits.

MORAL EDUCATION.

As character always determines the use to which knowledge and training are put, it is of prime importance in education. Unless accompanied with the development of character, conscience, and conviction as guiding principles, the development of power and efficiency through education may, through misapplication, become a means of degradation. It is not surprising, therefore, that one of the most marked tendencies in American education is increased emphasis upon moral education, whereby there shall be woven into the warp and woof of the character of the growing child and youth the homely virtues needed for the proper guidance of everyday life. It is as needful and as democratic that our system of education should minister to the moral needs of all classes of our population as that it should minister to their industrial and vocational needs. In this land of teeming immigration, of multiplying factories, and shops, of growing cities with their apartment houses and crowded tenements and numberless temptations, when on every hand the forces that tend to cast asunder the home ties, to shorten the hours of family association, to weaken the bonds of parental control, and to decrease the opportunities for moral training in the home are daily multiplying, an increased burden of moral education has been thrown upon the American school.

For the formation and fortification of good character, it is wisely insisted that moral instruction should be given in all our schools by precept, example, and systematic teaching. It should be based, I believe, upon the fundamental teachings of the Book of Books, and the open Bible for moral but not sectarian instruction should have and hold its place in every public school. Example is more potent than precept, willing and doing the right, impelled by the right motive, the formation of right habits from right living, more potent than systematic teaching about right and wrong. "School is not preperation for life: school is life." In schoolroom and on playground the child finds as varied and typical opportunities as men find in the wide world beyond for doing right, for refraining from wrong, for acquiring under proper guidance and stimulation, by observation, imitation, association, and practice, self-restraint, industry, obedience, courage, courtesy, kindness, honesty, purity, charity, and all the other virtues that form and adorn human character.

There is scarcely a school task, duty or play that cannot be made by a skilful teacher to contribute to the moral education of the child. History and literature and the drama of the world's daily life furnish abundant material for illustration and inspiration. But over all, above all, more than all, is the daily example, the personal touch, the dynamic influence of the teacher with soul and consecration.

Moral character is not formed by the mere memorizing ot moral maxims and ethical principles. Feeling is the real key to it. Right feeling must precede right acting. Feeling, desire, motive, action, these are the steps to virtue or to vice. As a man thinketh in his heart so is he. The heart of a little child must be kept with all diligence, if out of it shall come the issues of life. More and more are the methods of moral instruction conforming to these fundamental principles taught and illustrated in the writings and lives of the greatest moral reformers and teachers of the ages.

THE ALTRUISTIC TENDENCY.

Selfishness and separateness will eat out the heart of any civilization and sow seeds of decay in any system of education. The spirit of all true democracy is essentially altruistic. There is much cause for rejoicing, therefore, in the growth of the altruistic spirit in American civilization and

American education. In the business world where competition is sharpest and selfishness most to be expected, there is manifest evidence of a constantly growing sense of obligation by the rich to hold their wealth in trust for the advancement of society and to use it for the benefit of humanity. Perhaps no other century in the annals of time has to its everlasting credit so much of princely philanthropy. Is it too much to hope that even before the close of this twentieth century we shall witness the adoption by the rich everywhere, of the high creed of one of the century's princeliest philanthropists that to die rich should be counted a crime?

This spirit of altruism so manifest in American life is becoming more and more potent in American education. The true scholar no longer seeks scholarship solely for personal enjoyment and individual superiority, but rather for social service and the happiness of humanity. Consecration of individual talent and power, of intellectual, moral, and spiritual wealth of every sort, to the uplift of all shall at last become the dominant doctrine in every American school.

Every child born into the world in a democracy is not only the parent's child, but also the community's child, the State's child, the nation's child, and humanity's child. Out of every one of these relations grow a duty and an obligation from every one of us to every one of these American children, which we neglect at peril to the family, the community, the State, the nation, society, and all civilization. The school-less child is a menace to the best in all. If the child be not so educated as to lay upon him a reciprocal duty and obligation to render in return when he reaches manhood's estate a service to all, commensurate with that which he has received from all, then education is a failure and the vast expenditure for it a criminal waste.

The fundamental basis of all public education in a democracy must be social and the fundamental aim of it must be altruistic. The individual is educated at the expense of the public, that he may be able to render to the public the best service of which he is capable; and he should be so educated, as to desire and to determine to consecrate his education to such service. There can be no other justification of public education by general taxation. The old education was individualistic; the new education must be altruistic.

This altruistic spirit is but a recognition and an application of democracy's fundamental principles of universal brotherhood, individual responsibility, and social obligation.

THE PEACE MOVEMENT.

This Peace Movement that promises to sweep the world into universal peace, what is it but the natural product of this spirit of democracy and altruism, the fruit in due season of a Christian civilization whose founder was the Prince of Peace and one of whose cardinal principles for two thousand years has been "Peace on earth, good will toward men?"

But we may cry peace, peace; we may prate of its beauty to children and to men; we may form our peace societies and hold our peace conferences and enact our peace laws, but peace cometh not by observation—the seat of it is within the heart—the sceptre of it is wielded by the spirit. Therefore, through education in the home and school must be cultivated those virtues that make for peace—love, justice, mercy, recognition of the rights of others. These must reign in the hearts of children and rule the spirits of men in all lands before peace can reign o'er all the earth.

It is well to begin with the children in the schools, before the heart is full of din and the world's fierce battles begin, when their tender feet can be more easily led into the paths of peace and their innocent souls more easily attuned to the music of peace. The lion and the lamb shall some day lie down together, but not until a little child shall lead them.

"Far a'that, and a'that,
It's coming yet, for a'that,
That man to man, the warl' o'er,
Shall brothers be for a'that."

THE PUBLIC HEALTH MOVEMENT.

This public health movement that is enlisting the activities of men and women everywhere for the prevention of disease and the preservation of health and life, what is that but the product, too, of this growing spirit of altruism in society, government, and school, a recognition of the fundamental value of healthy bodies as a necessity for the effective application of every sort of education to the doing of a man's work in the world, of the civic duty of preserving the health and prolonging the life of all, to increase the efficiency and prolong the service of all. Disease decreases efficiency, premature death ends it ere it is well begun. What shall it profit a nation if, through education, it gain all knowledge and all power, intellectual and spiritual, but, through disease, lose its physical vigor, its body, by which alone it can act upon the world?

Such are some of the dominant tendencies in American education that are shaping and molding the destiny of our democracy. There are conflicts and discords now. There shall be victorious adjustment and concord by and by, for

> "I see in part,
> That all, as in some piece of art,
> Is toil co-operant to an end."

"In the Sistine Chapel," says George Herbert Palmer, "Michael Angelo has depicted the Almighty moving in clouds over the rugged earth where lies the newly created Adam, hardly aware of himself. The tips of the fingers touch, the Lord's and Adam's, and the huge frame loses its inertness and rears itself into action."

Teachers of America, go forth to your work of lifting humanity into finger touch with the Almighty, unawed by fear, unrestrained by pessimism, sustained by faith in the holiness of your mission, assured that you hold the strategic point in education, which is and ever must be the strategic point in civilization.

NORTH CAROLINA HIGH SCHOOLS AND WOMEN'S COLLEGES WITH REFERENCE TO STANDARD COLLEGE ENTRANCE REQUIREMENTS.

MISS ELIZABETH A. COLTON,
Professor of English in Meredith College.

At the seventh annual meeting of the Southern Association of College Women held in Atlanta, April, 1909, it was proposed that the chapters of this Association in the different Southern States should try to influence high schools and "Class B" colleges to offer at least one course which would prepare students to enter without conditions any of the seven leading American colleges for women. The object of this suggestion was not that all students in Southern schools should be required to take such a course, but that the preparation necessary for admission to the best Northern colleges should be offered for the benefit of those who desired it. Such preparation would, of course, be more than sufficient to admit students to the three distinctly Southern colleges for women —Randolph Macon, Agnes Scott, and Sophie Newcomb.*

The Raleigh Chapter of the Southern Association of College Women, in attempting to carry out the suggestion made at the Atlanta meeting, limited its work during the year 1909-1910 almost entirely to the compiling of statistics in regard to the curricula of North Carolina high schools and women's "colleges," with a view to finding out to what extent the schools could prepare students for admission to such representative colleges as Mount Holyoke, Vassar and Wellesley.

In our study of high schools, we were greatly indebted to Professor Walker, State Inspector of High Schools, not only for the broad view of the subject presented in a lecture before our Chapter on "The Significance of the High School Move-

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*Goucher College (Woman's college of Baltimore) also belongs to the Association of Colleges and Preparatory Schools of the Southern States; and Meredith College, beginning with September, 1910, will require the standard fourteen units in its Academy curriculum.

Units Required for Admission, and Work Completed by End of Sophomore Year, by the Following North Carolina Institutions in 1910:

	English.	Latin.	Math.	History.	Science.	Modern Lang.	Total Entrance Units.	Entrance Units Plus Work Completed by End of Sophomore Year.
Chowan College	1	2	1	1	----	----	5	12.6 units
Elizabeth College (2)	1.5	1.6	1.5	1	----	----	6.6	13 units
Greensboro Female College (3)	2.4	2.4	1.6	1.6	1.6	----	9.6	14 units plus 14 hrs.
Littleton College (1)	----	----	----	----	----	----	None	5.5 units
Louisburg College (1)	----	----	----	----	----	----	None	6 units
Meredith College (4)	3	3	2.5	2	1	1	12.5	14 units plus 24 hrs.
N. C. State Normal College	2	2	1.5	2	1	----	8.5	14 units plus 15 hrs.
Normal and Collegiate Institute	----	----	----	----	----	----	None	7 units
Oxford Seminary (1)	----	----	----	----	----	----	None	6.7 units
Peace Institute	1.5	1.6	1.2	1.2	1.2	.6	7.3	13 units
Presbyterian College	1.5	2	1.5	.5	1	----	6.5	13 units
Salem Academy and College (5)	2	2	2	1.5	1.5	----	9	14 units plus 7 hrs.
Southern Pres. College	2	1.7	1.5	1	1	----	7.2	13 units
St. Mary's School	1.5	2	1.5	1.6	.7	----	7.3	14 units
Statesville Female College (6)	----	----	----	----	----	----	----	----

(1) A unit represents a year's study in any subject in a *secondary* school, constituting approximately a quarter of a full year's work. Graded school work is not counted in units; hence Littleton College, Louisburg College and Oxford Seminary do not require any admission units.

(2) Elizabeth College is planning some changes in admission requirements next year.

(3) Greensboro Female College requires for admission 12 "Methodist" units, which are equivalent to 9.6 Carnegie units (c. f. Report, 1908, page 175).

(4) Meredith College will require 14 units for admission in 1911. In 1910-1911, the curriculum of Meredith Academy will include 14 units.

(5) Salem Academy and College is planning some changes in admission requirements in 1910-1911.

(6) Statesville Female College was not able to supply the Raleigh Chapter of the S. A. C. W. with a catalogue in time for these statistics.

ment in the South," but especially for the specific information furnished in his invaluable Report, published in January, 1909. From his carefully compiled statistics, we learned that during the academic year 1908-1909, there were no high schools in North Carolina that quite completed the four units of Latin, or that offered the three units of Greek, French, or German, required for admission by Mount Holyoke, Wellesley, and Vassar; and that there were only a few that completed a full unit of physics and chemistry, the only sciences accepted for entrance by these three Northern colleges. Eleven high schools, however, in 1909, offered fourteen or more units of the kind of subject matter accepted by colleges belonging to the Association of Colleges and Preparatory Schools of the Southern States. And as the State Inspector believes that expansion is the great problem of Southern high schools at present, it is hardly probable that those in authority will consider it desirable for a number of years to modify the high school curriculum in such a way as to offer even one course sufficiently rigid to prepare students for admission to the Northern colleges taken as our standard.

SUPERVISION AND EDUCATIONAL PROGRESS

BRUCE CRAVEN
Superintendent Kinston Public Schools.

The most urgent necessity for the continuance of educational progress in North Carolina is more authoritative supervision. Money expended in supervision is generally complained about the most, but there should be more of it rather than less. This does not mean that all schools should be made exactly alike, but that there should be sufficient and such competent supervision that any school may have the opportunity to reach the highest possible standard.

There is no way for the State to force uniform schools on communities which individually pay for them. The best the State can do is to guard against incompetency in school work as it does against incompetency in medical or legal work. There are many details to be considered before North Carolina will have a perfect system of schools, and one of the first and foremost is supervision—better supervision and more of it.

Appropriation should be made for four assistant State Superintendents, who should be given such salaries as to obtain the ablest school men in the State for the positions. This board of superintendents should issue certificates of qualification for all other superintendents, including city and county and separate public high schools. This board should also supervise all courses of study and all examinations of teachers.

The second consideration should be that a Board of School Trustees shall confine its activities to getting money for the school and controlling all matters directly connected with its expenditure, and electing a superintendent from the qualified list.

This superintendent should be elected for a term of four years, and this would apply to county superintendents, city superintendents, and superintendents of high schools. This latter position does not now exist, but it should be created after the Massachusetts plan of "union superintendents," whereby three or four or five high schools combine to employ one high-class superintendent. All the high schools in one county might well employ the full services of a well qualified superintendent, and probably would gladly do so under the plan suggested, where the state gives a special appropriation to each such union superintendent, provided his salary be not less than fifteen hundred dollars a year. This minimum might well be made to apply also to all the other qualified superintendents.

The selection of teachers should be absolutely in the control of the superintendents. This is practically so in many places now, but where a superintendent is to be himself reelected at the same time as the teachers, his supervision in this respect cannot be very authoritative. He should prepare a qualified list of applicants and assign them to duty by the merit system as the vacancies occur, and suspend them from duty whenever their grading falls below the set standard. It ought not to be even necessary to confer with a trustee concerning either the qualification, selection, assignment, or dismissal of a teacher. The most pernicious evil in our schools today is the prevailing idea that the chief duty of the trustees is to select teachers and assign them to their work. As a matter of fact there is no more reason for them to control this than any other of the details of school management.

A teacher, when assigned to duty under this system, would have a permanent assignment so long as her work is up to the requirements. There would be no annual election, and she would have no one to satisfy except one man, from whom she could find out at any time where she stands in her work.

The course of study should be maintained under direct supervision of the State Board, but there would be no attempt to force it upon any community. The State could well adopt the South Carolina plan of making a special appropriation to every school which is reported by the State Inspector as accomplishing all of the required work.

Likewise, text-books should be recommended for all schools, and about this there need be no misunderstanding. The best schools in the State today are using practically the same books and they could be made entirely uniform without embarrassment to anyone. This can be regulated through the report on the work accomplished, as credit would not be given, unless the suggested book or one equally as good, should be in use.

With frequent changes in superintendents there can be no good effects of supervision. With annual elections of superintendents and with teachers elected by the trustees, there can be no authority of supervision. Hence, the plan of permanent tenure and authority prescribed by law is the only solution.

It is not the fault of the superintendents that there is so little real supervision. A superintendent may be very efficient in one general division of his work and very deficient in another. He must be an organizer, one who plans and initiates; an administrator, to attend to the business management of the institution, the office work, etc.; an executive to enforce law and order and system; and a supervisor, to be able to determine the capability of each teacher, to condemn poor teaching and encourage the good, and to suggest possible means of improvement.

It is in this latter detail that our present system falls short. Most of the superintendents are thoroughly efficient as executives, many of them as administrators, and quite a number as organizers. The fault is not their own that their work as supervisors does not bear fruit; permanent tenure of office and consequent authority in the selection of teachers is the remedy. With this long step forward, there will pass away the necessity for a superintendent to guage his every act to coincide with the preconceived views of a number of men who are not competent to sit in judgment upon his efforts.

FARMERS' UNION WANTS FARM-LIFE SCHOOLS

The North Carolina Farmers' Educational and Coöperative Union, which held its annual meeting at the A. & M. College, Raleigh, July 26-27, took a decided stand for the establishment of farm-life schools. The report of the Committee on Education, which was adopted unanimously, is here given in full. This report, it may be added, is in exact accord with the ideas of State Superintendent Joyner, and there is little reason to doubt that the second part of it, which relates to farm-life instruction in the rural high schools, will sooner or later be enacted into legislation.

It will be noted that no new school machinery or system of schools is asked for, nor is there any demand that the recognized cultural studies shall be displaced by the practical. The plan suggested is to combine the cultural and the practical in the same school. In this respect the report is conservative, wise, and practical. In order to put into effect the plan proposed the Union pledges to the school authorities its hearty support and coöperation. What this support may mean can be judged from the fact the Union, which, by the way, is not a political organization, is now composed of more than 70,000 of the most progressive farmers of the State. Here is a great army of earnest men deeply and seriously interested in our educational development, pledging their support and coöperation. Their influence is going to count mightily in the upbuilding of the system of public high schools the State is now developing. It is needless to add they are going to get what they are asking for.

REPORT OF THE COMMITTEE ON EDUCATION.

Notwithstanding the fact that North Carolina is one of the original thirteen colonies, yet we note with regret, that we are far behind some of the younger states in the development of our resources; especially our agriculture. Our swamp lands remain undrained; our piedmont hillsides are dotted with unsightly gullies; our mountain section has lost untold wealth by the wanton destruction of its valuable timber. Eighty per cent of our people are living upon the farms, yet only a small per cent know anything about their own soil condition, needs of different crops, etc., thereby failing to have the essentials necessary to the full development of a high order of citizenship. We believe that a better knowledge of the practical science of agriculutre on the part of the great masses of people living in the rural districts will not only add comfort to happiness in all of the now desolate homes, but will also add untold wealth to our grand old commonwealth.

Those communities and those states that have given their children a special education for farm life are living in the most comfort, are making the best crops, are best developing and conserving their resources, and are at the same time rearing a most contented and useful citizenship. In the light of what is being done in other states, and from a careful study of our own needs and from thoughtful consideration of our present educational requirements, we are convinced of the necessity of specifically training our children for farm life. Along with their general education, these children should be taught how to keep their homes sanitary and beautiful, how to manage their households, and how to co-operate with one another in marketing crops and in getting full value for their products. If they are taught these essentials, they will be enabled from their farms to meet the growing demands of ever-increasing population and to live with a full measure of comfort: Therefore, to begin the fulfillment of these ends, we recommend the following plan:

1. That we urge the enforcement of the present State law requiring agriculture to be taught in the common schools, and that this be done with the best possible facilities. To accomplish this important step, we recommend:

First, that each county union appoint a standing committee of forceful men to co-operate with the county superintendent of education in seeing that this is faithfully done.

Second, that our State Union, through an educational committee, co-operate with the State Superintendent of Public Instruction in furthering this end and in devising practical means for making the teaching most efficient.

Third, that if it be necessary, we will ask that the time allotted to some other subjects be curtailed in order that our children may be instructed in the occupation which the majority of them are to follow either intelligently or unintelligently—intelligently if they are trained, unintelligently if they are unprepared.

Fourth. We also recommend that in connection with the larger schools small demonstration farms or gardens be cultivated for instructive purposes.

2. We urge that, as in accordance with a recent State law rural high schools have been and are being organized in the various counties, at least one of these schools be set apart in counties meeting the required conditions as a county high school for farm-life instruction in conjunction with other high school work. We further urge that the following things be done in the schools so designated for this purpose:

First. that without excluding those subjects so necessary for any educated person, these schools make a specialty of preparing boys and girls for farm homes by teaching thoroughly and with best equipment the arts and sciences bearing on farm life and farm homes and farm management.

Second, that in connection with these schools a farm for practical demonstration of best agricultural practice, be conducted and also provision be made for teaching the girls household science, and that this subject be taught in the best modern methods.

Third, that a comfortable, but inexpensive dormitory for boarding pupils and a teachers' home be erected at each of these schools in order that the teacher may be in charge of the farm all of the year and that boys and girls from all parts of the country may secure boarding accommodations at actual cost.

Fourth. We recommend and urge that the General Assembly increase the State appropriation for public schools sufficiently to provide for the development of the best high school into such a farm-life school, with such courses of instruction as may be necessary in counties that will meet the conditions necessary for the successful maintenance and equipment of such a farm-life high school and, further, that in order to enable counties to meet these conditions, the General Assembly do enact a law permitting such counties as desire such schools to vote upon a proposition to levy a small special tax on property and polls sufficient to provide the necessary equipment in land and buildings and to provide annually at least one-half the necessary funds for the maintenance of the schools, the other part of the funds for annual maintenance to be supplied out of the special State appropriation.

Fifth, that such schools shall be an organic part of the regular State and county school system.

3. That we call on our State institutions, the University, the State Normal and Industrial College, the East Carolina Teachers' Training School, the Cullowhee Normal and Industrial School, the Appalachian Training School, and the College of Agriculture and Mechanic Arts, to put forth every effort to train teachers of agriculture and household arts and science for these schools.

We urge upon our State Union to issue instructions to each local union in the State to see that agriculture and domestic science are taught in each school in their respective communities.

SOME EXTRACTS FROM PRINCIPALS' REPORTS

The following extracts, taken at random from the reports of the public high school principals for the school year which has just closed, indicate in a measure the improvement in school environment and equipment that is being made in some of the more progressive communities. These brief extracts speak volumes. They not only reflect the school spirit and attitude of the communities themselves; they also show what a live principal can accomplish.

Principal J. A. Hornaday, Friendship High School, Alamance County: "Boys' Farm Life and Girls' Home Life Clubs have been organized, and a School Fair to be held in the fall, has been planned."

Principal L. E. Mauney, Murphy High School, Cherokee County: "New building is now in progress, to cost $20,000."

Principal L. E. Bennett, Pantego High School, Beaufort County: "A number of books has been added to the library. Several pictures, including a large one of Washington, have been framed. The school garden has been increased to twice its former size, making it now include almost a quarter of an acre. A school farm of three acres has been planted in cotton. The museum has been greatly increased in size, and three cases have been secured in which to keep it. A teacher's chair and desk, and ten desks for the Primary Room have been purchased. A Woman's Betterment Association has been organized and is doing excellent work. A new building is to be erected this summer, and another teacher added to the teaching force of the high school next year. The outlook for the future is bright."

Principal J. C. Crawford, Morven High School, Anson County: "Have just finished a new building worth $9,000."

Principal J. O. Goodman, Helton High School, Ashe Co.: "A large boarding hall has been built."

Principal L. A. Bickle, Rocky River High School, Cabarrus County: "A new school building now occupies a more desirable site. * * * It is well arranged and suitably furnished with desks and blackboards."

Principal S. G. Hasty, Churchland High School, Davidson County: "Our literary society halls have recently been furnished. Our reading room has also been supplied with numbers of magazines and papers."

Principal P. E. Shaw, Teacheys High School, Duplin County: "The Betterment Association, composed of the people of the district, bought a $2,000 School Farm, a team, and farming implements, and have the land now in cultivation; also, employ the principal twelve months in the year, so he lives on the farm and has general supervision of both the farm and school."

Principal B. I. Tart, Warsaw High School, Duplin County: "We expect to erect a new school building to cost not less than $12,000 next year."

Principal J. W. Daniel, Bethania High School, Forsyth County: "As we stated in our last report, the front lawn of the school property has been beautifully graded, laid off in walks, sown in grass, and enclosed by a neat and substantial fence. Three hundred strong, neat folding chairs have been provided for the auditorium. Just before our last Commencement electric lights were installed in our building. Another piano was bought during the last session. We now have two, and our facilities for music are good."

Mrs. T. W. Costen, Jr., Principal, Reynoldson High School, Gates County: "A fine school spirit pervades the community. The Trustees have purchased for the school a 90-acre farm, adjoining the school grounds, at a cost of $3,000. [There is a large three-story building on the farm purchased, formerly used as a hotel, which will be renovated and used as a dormitory building and principal's home]. A music school of 17 pupils adds a fourth member to the faculty. The Betterment Association presented a $10 flag on Thanksgiving Day. A number of farmers in the community have planted each an acre of corn for the school."

Principal J. A. Pitts, Creedmoor High School, Granville County: "Trees have been planted, and the grounds sown in preparation for grass. The school has grown in number so that it will be necessary to add the fifth teacher another year."

Principal M. S. Giles, Stem High School, Granville County: "The new building erected during the summer of 1909 was in readiness for the opening September 13. This building, which cost $4,000, is one of Stem's best assets. It is furnished with patent desks and nice blackboards. The Woman's Betterment Association, organized this year, has raised $220. Building painted since school closed."

Principal S. T. Liles, Monticello High School, Guilford County: "New high school building erected, costing $3,500. 32 new patent single desks bought and presented to the school by the high school pupils. New 10-room boarding house erected, costing $2,500. Another teacher added."

Principal L. T. Royall, Benson High School, Johnston County: "An additional lot has been purchased, thereby enlarging our grounds. Preparations are being made to enlarge the building at once."

Principal W. H. Albright, Aurelian Springs High School, Halifax County: "One new room added, extra teacher employed, new blackboards, teachers' desks, etc., added. School growing all the time in numbers, efficiency, and ability to promote the cause of education. We are anxious to establish a Department of Domestic Science; also a School Farm."

Miss Josephine McLendon, Principal Harmony High School, Iredell County: "Music hall built, and piano placed in same."

Principal D. M. Stallings, Hayesville High School, Clay County: "With a dormitory to accommodate our boarding students and with more funds to increase our teaching force, we could double our enrollment for next year."

Principal Paul H. Nance, Red Oak High School, Nash County: "Supplementary library, ten patent desks, two pianos added. One ten-room dormitory built, costing, with furniture, etc., about $2,250."

Principal E. C. Ruffin, Rich Square High School, Northampton County: "During the year 1909-1910 new desks, shades, blackboards, stoves, etc., have been bought. A good literary society has been organized, and a very creditable reading room has been started. A new library case was bought, and the number of volumees doubled during the year. Several magazines and current papers come regularly to our school."

Principal Geo. W. Bradshaw, Farmer High School, Randolph County: "At the beginning of the year all class rooms were supplied with best Hyloplate blackboard and heaters. 50 patent single desks were added to the high school department."

Principal Kader R. Curtis, Severn High School, Northampton County: "New high school building costing $4,400; new single desks for three rooms, opera chairs for auditorium."

Principal John W. Hall, Richlands High School, Onslow County: "Our school has been only a three-year school. The Board of Education decided at the last meeting to put in an additional year."

Principal Hoy Taylor, Biscoe High School, Montgomery County: "The fourth year and another teacher are to be added next year."

Principal T. D. Sharpe, Liberty High School, Randolph County: "Our new building was completed this year at a cost of $10,000. We took the responsibility of seating our auditorium with nice chairs, the money for which was made by public entertainments."

Principal Billy Robinson, Newton Grove High School, Sampson County: "Entire school well supplied with hyloplate boards. Money raised for this by a box supper. An election soon to be held to add additional territory to the high school district. If this carries, it will eliminate a public school and strengthen two others. Attendance in high school department more than doubled over last year."

Principal R. A. Foard, Bay Leaf High School, Wake County: "A dormitory which cost about $2,000 was built and equipped in part."

Principal Alex H. White, Pollocksville High School, Jones County: "Trees planted on yard. A first-class piano purchased. A music department established."

Principal Julian B. Martin, Bethel High School, Pitt County: "We have enclosed school grounds with a $75 fence; have built cement walk at $75; and added $8.00 worth of books to our English library."

Principal Kenneth H. McIntyre, Holly Springs High School, Wake County: "We have established a Domestic Science class and fitted up a family kitchen. * * * We have bought a physics laboratory. We also have a small laboratory for teaching agriculture."

Principal E. G. Suttlemyre, Wilkesboro High School, Wilkes County: "The school building has been practically completed, and 318 opera chairs are now being placed in the auditorium. For this and for other purposes about $600 has been raised by private donations and entertainments. Arrangements are now being made to change the old building into a dormitory for boarding students next year."

Principal John S. Mitchell, Courtney High School, Yadkin County: "School grounds have been enlarged and a Teachers' Home built since last year."

Principal W. B. Reid, Marshville High School, Union County: "We are building a $10,000 house, modern, well-equipped and furnished in every way. The interest in school work has increased, and we hope to have a good school."

Principal Ethel May Carroll, Mars Hill High School, Bertie County: "Another room valued at $200 has been added to the building as a result of Betterment work."

Principal J. M. Watts, Scotts High School, Iredell Co.: "Building has been enlarged and painted. It is now much more convenient, and the seating capacity has been increased at least thirty-five per cent."

EDUCATIONAL PLATFORM*

We, the members of the North Carolina Teachers' Assembly, hereby declare ourselves in favor of the following Educational Platform and recommend the incorporation of the principles therein expressed into the Public School Law of the State:

1. We favor the establishment of an auxiliary board composed of representative educators to act in conjunction with the State Board of Education in matters pertaining to the educational policy and administration of the State.

2. We favor a constitutional amendment opening the way for the gradual increase of the school term in every district from a requirement of four months to eight months.

3. We favor a uniform system of selecting county boards of education and county superintendents.

4. We favor a provision for voting special taxes by counties.

5. We favor a uniform system of examination and certification of all teachers.

6. We favor requiring by law higher professional qualifications for the office of County Superintendent.

7. We favor incorporating the county farm life school in the present system of State High Schools according to the plan recommended by the State Superintendent of Public Instruction.

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*Adopted by the North Carolina Teachers' Assembly at Asheville, June 17 1910.

THE NORTH CAROLINA
HIGH SCHOOL BULLETIN

N. W. WALKER, EDITOR

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I would rather be a healthy man at the foot of the mountain advancing steadily and with the upward look of hope and faith than to be a corpse on the peak, or the blase traveler who has gone over the entire road and is slowly descending while possessed with the delusion that he is standing still on the summit.—Charles D. McIver.

OCTOBER, 1910

GENERAL ANNOUNCEMENT

¶ THE NORTH CAROLINA HIGH SCHOOL BULLETIN will be published quarterly by the University, and sent free of cost to superintendents, principals and high school teachers of the State who wish to receive it. It will be devoted to the building up of the North Carolina High Schools. THE BULLETIN will publish from time to time, in addition to other matters of interest to high school teachers, pertinent discussions of secondary school conditions, problems, etc., and will endeavor to make itself helpful in whatever ways it can. It will welcome from the school men of the State suggestions looking to its larger usefulness.

ERRATA

Page 109.	In blank after "pages" insert "104-105."
" 110.	For sub-head "Study in Practice" read "Study and Practice."
" 119.	Line 6, "Cataline" should be "Catiline."
" 133	Is incorrectly numbered "183."

The North Carolina High School Bulletin

VOL. I FIFTY CENTS A YEAR NO. 4

INTRODUCTION

This number of the BULLETIN is presented to the high school teachers of the State with the hope that the suggestions it contains may prove helpful to them in meeting some of their problems of class-room instruction. The subjects of the curriculum are discussed with reference to college entrance requirements and are approached, therefore, from the point of view of the college teacher who has to deal with the youth after the high school has sent him on for higher training. The writers whose names are signed will welcome from teachers any suggestions bearing on points brought out in the several articles, and they will be glad to answer questions relating to points not already made clear. Correspondence about such matters is cordially invited.

The list of subjects which the University accepts for entrance includes sixteen branches, aggregating 32 units. Including as it does about all the subjects taught in our high schools. the list looks formidable. It is not so, however, either for the individual student or for any particular school. For unconditioned entrance the individual student is required to offer but 14 units, the subjects to be chosen in accordance with the requirements for entrance to the particular group of studies he wishes to pursue after entering college. The only studies that are absolutely required of all applicants for admission, and for entrance to all courses, are English, History, and Mathematics. In addition to these subjects the specific requirements for entrance to the different groups are: (1) Latin and Greek; (II) Latin and French or German; (III) French, German, and Science. Thus, it will be seen, that there is chance for election among several groups of studies and further chance for election within the groups. The full fourteen units can easily be completed by a four-year high school. And with this wide scope of election, a student who has had four years of high school training is likely to be well prepared for entrance to some course. Certainly this is true if the instruction he has received has been at all efficient.

Finally, it remains to be repeated, the high schools constitute the foundation upon which the University rests. Their interests are co-extensive and their educational problem essentially one. The attitude and the spirit of each toward the other must be that of sympathetic and helpful co-operation in their great common task. N. W. W.

SUBJECTS ACCEPTED FOR ENTRANCE

[From the Annual Catalogue, 1909-1910.]

The complete list of subjects accepted for entrance is as follows:

*English *a, b*	3. units
History *a, b, c*	3. units
Mathematics *a, b, c, d*	3.5 units
Greek *a, b, c*	3. units
Latin *a, b, c, d, e*	4.7 units
French *a, b*	3. units
German *a, b*	3. units
Spanish	2. units
Botany	1. unit
Chemistry	1. unit
Physics	1. unit
Zoology	1. unit
Drawing	1. unit
Civics	.5 unit
Physiography	.5 unit
Physiology	.5 unit

It will be noticed that each subject has a valuation by units. A unit means a definite amount of a subject satisfactorily completed in a reasonable length of time. For example one unit in History means the satisfactory completion of a standard text book in English or United States History in a period of study continuing through an entire High School session; one-half unit in Solid Geometry means the completion of the four books of Solid Geometry in about one-half a session; the fourteen units mentioned below correspond to the four years of work in a good High School.

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*For specific requirement in each of the subjects in this list, see pages 104-108 of this Bulletin.

Unconditioned entrance to the undergraduate departments of the University requires a total of 14 units* selected from the list above. A candidate, however, who desires to pursue any one of the regular courses leading to a Bachelor's degree must make his selection from the list of accepted subjects accord with the course to be pursued after entrance. Thus, the undergraduate course requiring Greek, Latin, Mathematics, and English, necessitates the selection on the part of the candidate of a specified number of units in each of these branches (see below). The same is true, also, of entrance to all other courses. It is possible, therefore, that a candidate who offers a total of 14 units may nevertheless be conditioned on one or more branches, if he has failed to prepare himself adequately for the particular course which he desires to pursue after entrance.

The following tables indicate the requirements for entrance to each of the three courses leading to the degree of Bachelor of Arts (see page 37).

For entrance to group 1:

English *a* and *b*	3. units
History *a* or *b*	2. units
Mathematics *a*, *b*, and *c*	3. units
Greek *a* and *b*	2. units
Latin *a*, *b*, *c*, and *d*	3.7 units
Elective	.3 unit

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*Two years ago, upon the admission into the list of subjects accepted for entrance of branches taught in the schools but hitherto not recognized by the University, it was deemed necessary to put the requirement for unconditioned entrance at 15 units in order to protect the regular baccalaureate courses. But since it has been found necessary in every case to require a specified selection of entrance subjects for each regular course irrespective of the number of units offered, unconditioned entrance has again been placed at 14 units instead of the experimental 15 units.

*See the *Annual Catalogue*.

For entrance to group 2:

English *a* and *b*	3. units
History *a* or *b*	2. units
Mathematics *a, b,* and *c*	3. units
Latin *a, b, c,* and *d*	3.7 units
French *a* or German *a*	2. units
Elective	.3 unit

For entrance to group 3:

English *a* and *b*	3. units
History *a* or *b*	2. units
Mathematics *a, b,* and *c*	3. units
French *a*	2. units
German *a*	2. units
Science	1. unit
Elective	1. unit

At the discretion of the Committee on Entrance Certificates candidates may be admitted with conditions, provided the total number of units offered does not fall below the minimum of 12 units, and provided the conditions are of such nature that, in the judgment of the Committee, they may be removed according to the regulation given in the next paragraph. The Committee has the discretionary power to admit certain candidates whose credits fall below 12 units, if, in the opinion of the Committee, the maturity of the candidate or his special object in view justifies such action. Candidates thus admitted will be classed as special students.

Entrance conditions in any subject except French, German, Greek, or Physics must be made up by September of the following year. A student who fails to comply with this regulation will not be allowed to register for any course in his Sophomore year. The exception of French, German, Greek, and Physics is made because few schools of the State are yet able to offer complete preparation in these branches. For this reason these courses are taught in the University, and an entering student is allowed two years in which to complete them.

The requirements in each of the subjects accepted for entrance are as follows:

English: (*a*) Reading and Practice............. 1.5 units

A. Two books from the following: 1. Shakespere's As You Like It, 2. Henry V, 3. Julius Caesar, 4. The Merchant of Venice, 5. Twelfth Night.

B. One book from the following: 1. Bacon's Essays; 2. Bunyan's The Pilgrim's Progress, Part I; 3. The Sir Roger de Coverley Papers in the Spectator; 4. Franklin's Autobiography.

C. One book from the following: 1. Chaucer's Prologue; 2. Selections from Spencer's Faerie Queene; 3. Pope's The Rape of the Lock; 4. Goldsmith's The Deserted Village; 5. Palgrave's Golden Treasury (First Series), Books I and II (special attention to Dryden, Collins, Gray, Cowper and Burns).

D. Two books from the following: 1. Goldsmith's The Vicar of Wakefield; 2. Scott's Ivanhoe; 3. Quentin Durward; 4. Hawthorne's The House of Seven Gables; 5. Thackeray's Henry Esmond; 6. Mrs. Gaskell's Cranford; 7. Dickens's A Tale of Two Cities; 8. George Eliot's Silas Marner; 9. Blackmore's Lorna Doone.

E. Two books from the following: 1. Irving's Sketch Book; 2. Lamb's Essays of Elia; 3. De Quincey's Joan of Arc and the English Mail-Coach; 4. Carlyle's Heroes and Hero Worship; 5. Emerson's Essays (selected); 6. Ruskin's Sesame and Lilies.

F. Two books from the following: 1. Coleridge's The Ancient Mariner; 2. Scott's The Lady of the Lake; 3. Byron's Mazeppa and the Prisoner of Chillon; 4. Palgrave's Golden Treasury (First Series), Book IV (special attention to Wordsworth, Keats, and Shelley); 5. Macaulay's Lays of Ancient Rome; 6. Poe's Poems; 7. Lowell's The Vision of Sir Launfal; 8. Arnold's Sohrab and Rustum; 9. Longfellow's The Courtship of Miles Standish; 10. Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; 11. Browning's Poems (selections).

The candidate is expected to have sufficient knowledge of these books to enable him to answer general questions on their substance. The form of the examination will be the composition of paragraphs on a number of topics connected with the works. The ability of the candidate to express his ideas in clear, accurate English is a main consideration. No applicant should present himself who is notably deficient in spelling, grammar, or paragraphing.

(*b*) Study and Practice .... 1.5 units

Shakespere's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay's The Life of Johnson, or Carlyle's Essay on Burns.

The questions on these books will be on subject matter and structure.

History: (*a*) The histories of the United States, Greece, and Rome, as outlined in the best text books for high schools .... 2. units

(*b*) The histories of the United States and England as outlined in the best text books for high schools, 2. units

(*c*) Mediaeval History .... 1. unit

Mathematics: (*a*) Algebra .... 1.5 units

The whole of a high school algebra including quadratic equations, binomial theorem, and progressions.

(*b*) The whole of Plane Geometry....... 1. unit

(*c*) The whole of Solid Geometry .... .5 unit

(*d*) Trigonometry .... .5 unit

Plane trigonometry and spherical trigonometry through right triangles.

Greek: (*a*) Grammar and Composition .... 1. unit

Acquaintance with the more usual forms and constructions; simple narrative in English, based upon Xenophon's Anabasis, to be translated into Greek.

(*b*) Xenophon .... 1. unit

The first four books of the Anabasis.

(*c*) Homer .... 1. unit

The first three books of the Iliad (omitting II, 494—end), with study of Homeric forms, constructions, and prosody.

Latin: (*a*) Grammar and Composition .... 1. unit

Forms, syntax, and prosody; simple narrative in English, based upon the prose read, to be translated into Latin.

(*b*) Caesar .... 1. unit

The first four books of the Gallic War.

(*c*) Cicero .... .7 unit

The four orations against Catiline.

(*d*) Vergil .... 1. unit

The first six books of the Aeneid, study of hexameter verse.

(*e*) Cornelius Nepos .... 1. unit

The first fifteen lives.

French: (*a*) Elementary .... 2. units

The forms and uses of the various parts of speech, including irregular verbs; translation of 250 or more pages of easy prose into idiomatic English; translation of simple English sentences into French; pronunciation.

(*b*) Intermediate .... 1. unit

Translation of 400 or more pages of French of ordinary difficulty.

German: (*a*) Elementary .... 2. units

Inflection, including the most common strong verbs; the ordinary laws of German syntax; translation of 200 or more pages of easy German into idiomatic English; translation of simple English sentences, based upon passages read, into German.

(*b*) Intermediate .... 1. unit

Translation of 400 or more pages of German of ordinary difficulty.

Spanish: Elementary .... 2. units

Inflections, including the most common irregular verbs; ordinary laws of syntax; translation of 250 pages or more of easy Spanish into idiomatic English; translation of simple English sentences, based upon the passages read, into Spanish.

Botany: .... 1. unit

A course such as is contained in any standard text book; laboratory work.

Chemistry: .... 1. unit

A course such as is contained in any standard text book; laboratory work.

Physics: .... 1. unit

A course such as is contained in Millikan and Gale's Physics, or Carhart and Chute's High School Physics: laboratory work such as is outlined in Millikan and Gale's Physics.

Physiography: .... .5 unit

A course such as is contained in any standard text book.

Physiology: .... 5. units

A course such as is contained in any standard text book.

Zoology: .... 1. unit

A year's course such as is contained in any standard text book.

Civics: .... .5 unit

A course such as is contained in any standard text book.

Drawing: .... 1. unit

A year's work including simple geometrical plane and solid figures, simple pieces of machinery; elementary rules of perspective, light and shade, as applied in freehand sketching.

ENGLISH

Edward K. Graham, *Professor of English.*

UNIFORM ENTRANCE REQUIREMENTS.

A detailed statement of the requirements for entrance in English is given on pages......... of this bulletin. These requirements are uniform for colleges throughout the country, and are framed by conference between the high schools and the colleges. Though formidable in appearance as they stand on the page, they do not make an unreasonable demand on the high school graduate. They do not require him to know more than he ought to know if he were going directly into business. In literature he is asked (a) to have a general knowledge of ten books that he may select from a group of thirty-eight; and he is asked (b) to have an exact knowledge of a group of five books. In composition he is asked for such knowledge as will enable him "to express his ideas in clear, accurate English."

READING AND PRACTICE.

The high school course in the literature covered by (a) *Reading and Practice,* should extend over four years. The books chosen from this group should be chosen with the idea of making interest and pleasure uppermost. The selections should be arranged therefore, as far as possible, in the order of relative difficulty, and selection should be guided by the disposition and aptitude of the pupils. "Ivanhoe," for instance, may succeed where "The House of Seven Gables" will fail; "Bacon's Essays" may be deadly, but Franklin's "Autobiography" may excite the liveliest interest. In this right reading of the right book the true relation of the teacher, it seems to me, is sympathetic co-operation. Most pupils need to be shown how to read before they can really understand and enjoy, but enjoyment is the main object here, and the task-master should be as little evident as possible. If the teacher knows the books, and knows the class, he can bring the two together agreeably, and get good results without severely rigid methods.

STUDY IN PRACTICE.

The literature covered by (b), *Study and Practice,* is given for purposes of exact study. Students need to know that studying literature is a serious business—quite as serious as studying mathematics. This second group is studied to give method in studying intensively a book as a work of art. A precise knowledge of these specimens, a definite grasp of them as wholes, curiosity as to their references and their relations, is what is aimed at.

SOME HELPFUL BOOKS.

It is important for the teacher to know the aids to the successful teaching of English. Cheap editions of all of the required texts are published by almost all of the publishers. These special editions should be used by all means. Other helpful books, bearing on preparation in English are: *The Teaching of English,* by Carpenter, Baker & Scott (Longmans, Green & Co.); *Writing and Speaking,* by Baldwin (Longmans, Green & Co.); *Composition and Literature,* by Webster (Houghton, Mifflin & Co.); and *How to Study Literature,* by Heydrick (Hines, Noble & Eldridge).

COMPOSITION.

In the past few years the schools seem to have yielded to the pressure of the literature requirement to the neglect of the composition. To do this was natural, but it is liable to lead to serious defects in the pupil's preparation. In spite of the just claims of the literature the fact remains that "the most important part of a student's preparation is summed up in the statement: 'No candidate will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom or division into paragraphs.'

"To meet this requirement the student should have constant practice in writing. The main consideration is accuracy in details. The paragraph is the unit of composition, and if the student learns how to write *one paragraph* perfectly he is better prepared for Freshman English than if he had brought to college a hundred paragraphs of his own writing correct only in spots. Experience and observation alike prove that if such details as spelling, the use of capitals, of quotation marks, of the possessive sign, indention at the beginning of every paragraph, a regard for the mechanical appearance of the written page, an instinctive feeling for the difference between a whole sentence and a fragmentary sentence, are not learned before coming to college, they rarely become permanent acquisitions afterwards. Teachers are urged also to have their students memorize both prose and verse, and in every case to have them reproduce in writing the memorized selections with scrupulous attention to the details enumerated. If the practice is kept up of reproducing in written English what has been read or memorized, the student will become practically independent of grammars and rhetorics."

This statement was made by Dr. C. A. Smith in the high school bulletin issued two years ago. What it emphasizes needs still to be emphasized by schools and colleges alike: in all expression the fundamental thing is accuracy.

HISTORY

H. M. WAGSTAFF, *Associate Professor of History.*

History should find a place through the whole curriculum of the high school. This is made necessary by the fact that the school life of so large a percentage of students ends at this stage. If history is taught properly there is no branch of human learning that is more vital to a well-balanced conception of the problems of good citizenship. A comprehensive knowledge of history probably endows the individual with more intellectual freedom than any other single subject. Knowledge of the process by which a race emerges from the savage state, the factors and influences shaping it into a nation, and its first progress to enlightened self-government opens avenues of the vision to every goal of human achievement. If the bread and butter theory of education is to dominate we grant that history is less important than the ability to add, subtract and multiply—actions necessary in every relation of life—but, if intellectual citizenship be the ideal, then our earnest consideration at least must be given to that branch which develops civic soundness. The claim that history is preeminently fitted to secure this end is being slowly recognized and it remains only to effect the theory's consistent application.

Unfortunately there is much to criticise in the manner of the average child's introduction to the subject, a fact probably due to conditions in the primary schools. A teacher who launches a child in the study of history ought certainly to have a concise knowledge of what the subject means. Usually, however, the pupil comes into the high school with possibly half a dozen isolated facts fixed in his mind chronologically, together with a preconceived distaste for the subject due entirely to method. Hence, if the primary teacher himself—or, most probably, herself—could forget the date of Columbus' discovery, Jamestown's settlement or the American Declaration, and grasp the idea that history is an interrelation of cause, course, and result, then it is likely that the colossal ignorance of the subject with which the student enters the high school would be somewhat reduced.

In this connection it should be said that in the primary schools the text books should give place to a systematized course of historical stories which, by its appeal to the imagination, would awaken a real interest in the subject. Could the primary school succeed only in turning the pupil into the high school with at least his interest alive in history an important advantage would have been scored.

Assuming this interest upon the student's advance to the high school, then comes the work of conserving and directing it. This certainly requires efficient preparation and good ability in the high school teacher. He must have rid himself of the ancient method of question-asking from the margin of a text book. His own mind must be saturated with the spirit of history and replete with illustrations of its lessons. The teacher's sympathies must be wide and his judgment catholic and free from prejudices if he would make history *live* to the student. With this equipment, combined with sufficient enthusiasm, the instructors can fan the interest and imagination of the student to a vivid glow by which he sees the men of past ages as human beings rather than as automatons walking through a text in tireless procession.

The use of the laboratory method will be found as essential to the teacher of history as to the teacher of science. His appartus, of course, will be as effective a library as conditions make possible. This can always be supplemented by reports to be had free from the different branches of the local and national governments. Much use also may be made of current history and politics in newspapers and periodical literature. A further large source of subject matter is to be found in local history, of the town, city, county, special town buildings, a monument, a library, or even of the high school itself. The student should be assigned topics in this material for investigation. Thus an intimation of what original research means may be given, though the written productions may have no value beyond that derived by the student himself.

Individual reports on short topics, with specific references given by the teacher, should be required several times per week. This has the advantage of inducing the student to learn the use of indexes, catalogues, encyclopaedias et cetera, and teaches him the art of judicious elimination is his reading. Guidance will probably be necessary at the beginning, but the power soon acquired trebly justifies the practice.

The assignment of historical novels to give the flavor of a special period under investigation has especial value in high school courses. Students at this age will require a certain amount of fiction anyway, and the taste may very profitably be turned to the aid of history for the purpose suggested.

The teacher should likewise exert himself to have the student comprehend something of the difference in the nature of historical evidence, the difference in value of contemporary accounts and indirect testimony. Something also of the value of old ballads, legends, and folklore as historical background is easily conveyed at this stage. That Helen was ever stolen from Sparta, or Troy taken by the stratagem of the horse, may be merely legendary ornamentation, but that does not make the Iliad less valuable as a picture of the social and political life of the Homeric age.

These suggestions, carried out by the teacher in a spirit of sympathetic co-operation with the student, cannot but give him a broader culture and a wider love of his kind. Too, his zest will have been sharpened for a further pursuit of the story of human activity in a social, economic, and political sense. Thus the college teacher's task will be rendered less onerous.

FIRST YEAR.

The first year of high school history should undoubtedly be devoted to a study of Greece and Rome. The history of both is rich in mythology, legends, and the biography of heroes, thus being especially fitted to appeal to students of the average first-year age. Moreover, their developed civilizations have profoundly influenced the political philosophy and legal systems of advanced modern nations.

SECOND YEAR.

Medieval and modern history should make up the second-year course. This gives the advantage of continuity with the first year and lays the groundwork for the third. The present day civilization of no western European nation can be correctly understood without a knowledge of its middle age beginnings.

THIRD YEAR.

In the third year the student who has pursued the courses of the two previous years is ready to devote his attention to the historical development of his own race and should take up the story of England at its beginning. By judicious guidance he could cover the ground at least down to the American and French Revolutions.

FOURTH YEAR.

The fourth year naturally falls to American history. The student's historical judgment is now the more mature because of his advanced knowledge of English history, the basis of our institutional life. This gives him a special advantage in the interpretation of the factors which produced his own great republic.

As general guides for the courses named, the following texts are suggested:

First Year: Greece and Rome.
  West: *Ancient History* (Allyn and Bacon).
  Wolfson: *Essentials in Ancient History* (American Book Co.).
  Botsford: *Ancient History for Beginners* (Macmillan Co.).
  Goodspeed: *History of the Ancient World* (Scribner).
Second Year: Medieval and Modern.
  Myers: *Outlines of Medieval and Modern History* (Ginn and Co.).
  Bourne: *Medieval and Modern History* (Longmans).
  Adams: *Civilization During the Middle Ages.*
Third Year: England.
  Andrews, C. M.: *History of England* (Allyn and Bacon).
  Green, J. R.: *A Short History of the English People.*
  Tappan: *England's Story* (Houghton, Mifflin and Co.).
Fourth Year: American History.
  Hart, A. B.: *Essentials in American History* (American Book Co.).
  Adams and Trent: *History of U. S.* (Allyn and Bacon).
  Fiske: *History of United States* (Houghton, Mifflin and Co.).

CIVICS

CHARLES LEE RAPER, *Professor of Economics.*

Every man must of necessity take some part in the state in which he lives, however much or little be the energy which he puts forth in his business life, and whatever be the field of his work. Civil relations always surround him and are in turn influenced by his action, life, and character. He is and must always be a citizen in his state, and in this democratic state of ours he is always a vital link—one of the individuals who together make its life, its strength, and its greatness.

And the value of the part which he plays in these civic relations depends upon the intelligence which he possesses, upon the knowledge which he has of the purposes, ideals, forms, and policies of the government which his state administers. For his life to make anything like a worthy contribution to his government or to receive any important benefits from it, he must understand its workings—its legislative, judicial, and executive functions, methods, and policies. He must know himself—his body, mind, and morals. He must know the conditions amid which he is living. He must also know his state—its body, mind, and morals. All these things must he understand before his life can bring to himself or his community anything like an important contribution. He can no longer think of himself as an isolated individual; he must recognize that he is one individual citizen and worker among many, all working for their common welfare. To know your state and to take a vital part in its life, this is to live an unselfish and a useful life.

If this be true, and we are sure of it, the teaching of civics or government in our high schools is a vital need. This subject should of course be taught in every college. It should especially be taught in every high school, for the great majority of men never go to college, and this majority must play a vital part in the government of the state.

The course in civics or government should be both vital and practical. It should bring to the mind of the pupil some of the chief forms, functions, and ideals of government, and it should bring them with such enthusiasm as to inspire the desire for efficient government on the part of the state, and loyal and intelligent interest in this government on the part of the citizen.

(A separate text on civil government may be used by the class, but the work should be so closely correlated with the work in American history that each subject may supplement the other. Excellent texts for high school use are: Schwinn and Stevenson's *Civil Government* (Lippincott), James and Sanford's *Government in State and Nation* (Scribner), and Peele's *Civil Government of North Carolina and the United States* (B. F. Johnson Pub. Co.). As the title implies, Mr. Peele's work was written especially for the schools of North Carolina—Editor.)

LATIN

GEORGE HOWE, *Professor of the Latin Language and Literature.*

The requirements for unconditioned entrance in Latin are:

1. Grammar; the declensions, the conjugations, and the more common usages of the cases, the moods, and the tenses.
2. Cæsar's Gallic War, the first four books.
3. Cicero, the four orations against Cataline.
4. Vergil's Aeneid, the first six books.
5. Prose Composition.

The whole of this cannot be well done in less than four years with four or five hours of recitation each week. The crowding of so much reading into a shorter space of time usually results in a neglect of practice in applying the principles of grammar and in inaccuracy of translation. It is even better to leave out one whole requirement, to be made up by the student later, than to force into too short a time a quantity of work which must be hurriedly and carelessly done. And if crowding must be resorted to, let it be in the last year's work and not at the cost of the drill in grammar.

The order of the courses is naturally the progressive one laid down in the order of requirements stated above. The introduction to the language must begin with a study of forms. Emphasis should first be given the necessity of an exact and facile knowledge of the declensions and the conjugations. The student may not hope ever to read the language with ease and quickness of understanding until he has thoroughly mastered the forms and the various meanings which these forms may have. When he comes to the later study of syntax, he is wholly bewildered unless he can recognize at once the form to which the principle under discussion has application. As soon as the word is before the eye, the mind should know the case, the tense, the mood. And exactness as well as quickness should be the aim. Too often, in giving instruction in forms, the teacher fails to clear up the confusion which naturally arises in the beginner's mind from the resemblance different forms have to each other. Thus the first person singular active of some verb is often mistaken, absurd though it may seem, for the accusative case of some noun; and because no one ever comments for the student on the likeness and at the same time on the difference, because no one ever warns him of the double and even triple possibility of certain endings, he continues in the state of confusion long after he has begun to read the most complicated Latin.

SYNTAX.

Syntax is most profitably begun as soon as the study of declensions begins. It is first taught by explaining the more usual meanings of the several cases, by making clear the significance of case-endings, by illustrating in simplest terms the Latin method of showing the relations between words by means of the tags attached to the end of them, in contrast to the English method of an uninflected language of using prepositions and word order. If this difference is early pointed out, the puzzling matter of Latin word order also will at once receive a reasonable explanation. This same method should be pursued in the study of verbs: let the beginnings of syntax go hand in hand with the learning of forms, and point out at every stage how the Latin differs from the English. The syntax should then advance along broader lines, but should never be given exclusive attention until the forms are thoroughly and exactly known. And in teaching the principles of syntax let every point be always well illustrated. It is little help to the student to be told that the direct object of a verb is in the accusative case unless he can see both in his own language and in the Latin what is meant by a direct object. And that can be shown only by repeated illustration. The old-fashioned method of learning rules by heart was effective only when the rules were thoroughly understood, and if a principle be thoroughly understood, it will be found to be superfluous to require the memorizing of the rule.

PROSE COMPOSITION.

It is for this reason that the writing of exercises in prose composition has been found to be the surest, the most exact, and the quickest means of teaching forms and syntax. It illustrates constantly and repeatedly the principles explained. It should begin at the earliest possible moment—as soon as the forms and the elements of syntax have been learned—and should be continued throughout the entire four years. It is put last in the list above because, while it is naturally taught along with grammar, it should also be insisted upon while the reading of Cæsar, Cicero, and Vergil is being done, and should be the last thing completed. The exercises given in the usual beginner's books in connection with lessons in forms and syntax answer every requirement at first, but later it is wise to have an exercise book devoted exclusively to composition. When the reading of required authors is well under way, it is particularly helpful both for the reading and for the study of grammar to make one's own exercises from the vocabulary and the principles of syntax illustrated in the passage assigned for the day's translation.

PRONUNCIATION.

Correct habits of pronunciation should be secured with the beginner. If the proper sounds are used in learning the paradigms, if the accent be rightly placed at this time, the habit will be followed. And differences in quality should also be observed. The long vowels are not the same as the short; they are different letters. Hence the teacher should insist that twice as much time be taken for the long as for the short. In reading the hexameter verse also, there can be no success unless the difference between long and short is carefully observed. The Roman method of pronunciation should always be used.

TRANSLATION.

As soon as the preliminary study in grammar and composition is completed, Cæsar should be begun. The intermediate books intended as introductions to Cæsar are no longer held to be as advisable as the immediate plunge into Cæsar itself, especially since the beginner's books have begun to be supplied with such excellent reading lessons preparatory to Cæsar. The main essential in reading is absolute accuracy of translation, but yet the sort of accuracy that finds the exact equivalent in the English idiom, not the slavish rendering of words in haphazard arrangement. The one sort is instruction in forms, syntax, sequence of thought, structure and beauty of language, vocabulary, and art of translation; the other is instruction in nothing. If the grammar has been previously well learned, the main difficulty on taking up Cæsar is in understanding the word order. The Latin is more elastic than the English and admits of greater variety in the position of the elements of the sentence. Hence all successful reading must be done first in the order of the original. In no other way can it become facile. Let the student understand the sentence as it stands, reading it by its thought units and without transposition or any disarrangement of the order. When all the thoughts are thus understood, they may then be restated in simple English. This method is successfully taught by reading aloud easy sentences, presenting but one thought at a time and allowing the student to see the meaning in the order of the original. And if all the thought is clear to him without the necessity of translation, the method is most highly successful.

SIGHT-READING.

Very important in connection with the reading of continuous narrative is practice in reading at sight. The value of this method of teaching Latin is being constantly more and more appreciated. Many colleges are now insisting upon ability to read at sight as one of the most prominent requirements for entrance. A short passage with every recitation is not impossible. Sight-reading books arranged for the purpose are to be recommended, or at the end of each hour the translation at sight of the passage assigned for the next day's preparation. By this method is given greater facility in recognizing the forms, the syntax of words, and finally the meaning of the sentence. The student should also be taught to detect the meaning of a word from its position in the sentence, from association of similarity to an English derivative. This will aid the student to master the small vocabulary necessary to easy reading.

In the same way the translation should be continued through Cicero and Vergil, the scope of the daily tasks ever broadening, the attention directed more and more to the beauties of content and of expression which do not lie on the surface only, and to the general charms of style. In connection with Vergil should be begun a study of prosody, particularly of hexameter verse.

ROMAN LIFE.

Finally the study of Latin should always be associated with the lives of the people who spoke it. Emphasis should be given to history, geography, manners, and customs, and in general, the great contributions made by Rome to civilization.

GREEK

W. S. BERNARD, *Associate Professor of Greek.*

COURSE IN GREEK.

First Year:

Beginner's Greek (5 periods per week).

Texts suggested:

White's *First Greek Book* (Ginn and Co.).
Benner and Smyth's *Beginner's Greek* (Am. Book Co.).
Ball's *The Elements of Greek* (Macmillan); or
Moss's *First Greek Reader* (Allyn and Bacon), with
Babbitt's *Greek Grammar* (Am. Book Co.).

Second Year.

Anabasis, 4 books; Grammar; Composition.

Texts suggested:

Goodwin and White's *Anabasis* (Ginn and Co.).
Kelsey and Leno's *Anabasis* (Allyn and Bacon).
C. F. Smith's *Anabasis* (D. Appleton and Co.).
Babbitt's *Greek Grammar* (Am. Book Co.).
Hadley-Allen's *Greek Grammar* (Am. Book Co.).
Goodwin's *Greek Grammar* (Ginn and Co.).
Bonner's *Greek Composition* (Scott Foresman and Co.), or see below under *Suggestions to Teachers.*

SUGGESTIONS TO TEACHERS.

If any one of the introductory books suggested is used, it would be pleasant for both teacher and class to vary the work with selections from Moss's *First Greek Reader.* The stories are graded and can be read by the class with ease after the first week. But it may be helpful to commend a method of teaching Beginner's Greek that has been employed in the State University for the last three years, and proved to be superior to any other by actual results obtained. "It is the use of the grammar from the very beginning and in connection with it, Moss's *First Greek Reader*." The method is inductive, but has decided advantages over the inductive methods employed in such books as Harper and Castle's. In the first place, the text is not that of a highly polished classic author, containing a world of thought and custom unfamiliar to the beginner and bristling with grammatical and other difficulties that recur with disheartening frequency. On the contrary, the text begins with simple stories, so graded as to parallel the gradual development of forms, from the First Declension and Present Indicative Active of the verb onward, and of syntax, from the simplest Greek sentence in English word order onward to the more complex. In the second place, this method does not pile up a mass of undigested material, but admits the principle of elimination. The daily question with the teacher is not how much grammar can the class stagger under, but how little is necessary to understand the text to be read. The results gained are a much more rapid acquisition of vocabulary, facility in reading far beyond dependence on grammar, and increase in interest and pleasure. The details of the method are clearly set forth in a little pamphlet, *The Best Way to Teach Greek Beginners* (Allyn and Bacon), by Professor Addison Hogue.

The references in Moss's Reader are to the Grammars of Goodwin and Hadley-Allen, but Babbitt's is recommended as the most useful in the first two years of Greek by reason of its clearness of statement, simplicity of arrangement, and omission of much detail needed only in more advanced reading.

Between the editions of the *Anabasis* there is little to choose, yet those editions are deprecated which in the vocabulary refer specific meanings of words to specific sentences in the text, as this practice forestalls independence of thought on the part of the student.

PROSE COMPOSITION.

It is of the best experience that composition should accompany and imitate the text read; but as no composition book has yet been written flexible enough to parallel the daily reading of any text, it is suggested that the teacher prepare each day English sentences from either the preceding or the advance lesson for written exercises. If the sentences are from the preceding lesson, the memory will be practiced and the review made more thorough; if from the advance, the attention will be more acutely directed to forms and idioms in the lesson in hand. Either method gives practice to the hand and eye.

PRONUNCIATION.

But the organs of speech are another channel of acquisition, and of the greatest importance from the very beginning is accurate and facile pronunciation. Uncertainty in pronunciation is deadly to progress, especially in the building up of a vocabulary. A word pronounced on different occasions different ways is just so many different words and hence never acquired. It is best to adhere to the system in the text book used. Long and short vowels should be carefully discriminated and the stress placed always on the accented syllable. This is probably not what accent meant to the ancient Greek, but is the best we can do at present. Besides insisting upon the accurate pronunciation of the forms in the grammar, the teacher should read aloud every lesson, and then require the class to read aloud, individually and in concert, with proper emphasis, which is possible only after the sense is thoroughly mastered.

FORMS.

A word about forms. There is no easy road to the acquisition of forms; it is a matter of memorizing. Drudgery (and if a teacher is not capable of this he had better teach something else) and patience, infinite patience, and drill again and again. Yet so logical is Greek in the formation of its noun- and verb-forms, that when the student has understood the composition of the form by analysis, he applies himself with far more avidity than when required only to chant a paradigm. For example, the elements of the verbal forms, theme, tense suffix, mood suffix, personal endings, augment, reduplication, etc., and the relation of these to each other, should be mastered thoroughly; then the student should practice orally the building at random of the tenses of the moods and participle on themes dictated by the teacher. He will quickly become independent of paradigms, and it follows that recognition of forms in the text will be instantaneous.

SYNTAX.

As for syntax, much of it will take care of itself during the first year, by reason of the student's knowledge of Latin, his daily written exercises, and his common sense. With the reading of the *Anabasis* the study of syntax may become more systematic; but even then it were best not to vex the student with queer or uncommon uses.

A WORKING VOCABULARY.

Of far more importance in the first two years, and perhaps the chief difficulty of Greek, is the acquisition of a working vocabulary. Rational methods should lighten the task. A small number of the more usual words should be memorized each day and constantly reviewed. Association with cognates and derivatives, especially in Latin and English, is an aid to memory. In this connection the word lists in Harper and Wallace's *Anabasis* (Am. Book Co.) are useful. Excellent results will be had from the study of groups of words built on the same root, with instruction by the teacher on word formation. Such groups may be found in the vocabulary to Goodwin and White's *Anabasis* (Ginn and Co.).

TRANSLATION.

Translation is a fine art. "Perfect translation is rendering the thought of one language into another, without loss, without addition, in a style reproducing the characteristics of the original." In the second place, translation affords better training in English expression than can be obtained from original composition; for in translating the student may not avoid finding expression for every different and subtle idea of the author. Notwithstanding these splendid possibilities, translation is perhaps the most neglected phase of teaching the ancient languages. There is a real difficulty to be met. Beyond question, the beginner should learn to read Greek in the order of the written words; and that means for him translation in thought at least. Hence, without careful instruction, phrases barbarous to the English idiom are apt to become fixed in his mind. and he is not to be censured when he reproduces them orally. The mistake lies in the failure to recognize the unit of translation. It should be the phrase, not the word. The careful instructor will never permit his pupil to render the Greek into "to him a house there is," or "he happened being present." "He said himself to be about to go" is not a translation, even literal, because it is not English. The skilful translator's eye must learn to travel considerably ahead of his thought. Each Greek idiom should be analyzed, of course, but for purposes of translation treated as a piece of machinery, having a corresponding piece of machinery in English, of different structure, but doing the same work. Oral translation by the teacher, written translation by the pupil, the review lesson, will prove helpful in correcting "translation lingo." The writer has often found that, to require the pupil to close his book and state the content of the passage or sentence in his own words, will yield a creditable translation.

THE TEACHER.

After all, to the teacher whose heart is in it, and to the pupil under such a teacher, there are no serious difficulties—only such as make Greek perhaps the most useful of instruments for mental training in certain years of high school and college work. Sympathy, enthusiasm, snap, on the part of the teacher will tide the class over many a period of drudgery and bring it back at the next period in a spirit of unexpected earnestness. Of all studies Greek is susceptible of the variety of sidelights. Let the teacher keep himself saturated with information from the rich stores of Greek history and mythology and draw therefrom for the entertainment of his class. A half hour thus lost may be an hour gained. Let him talk on Greek athletics, and describe some of the great works of Greek art. Good pictures of these can be bought for a few cents each, and should be hung in the class room. Better still, the student will search for these treasures himself, if encouraged and directed. If the school has a library, and every high school will eventually, the Greek teacher should insist on the purchase of such books as are both of general interest as well as special usefulness to his class—such books as Botsford's *History of Greece* (Macmillan, $1.00), or Bury's (Macmillan, $1.90); Cappe's *Homer to Theocritus* (Scribner, $1.50); Tarbell's *History of Greek Art* (Macmillan, $1.00); Gulick's *Life of the Ancient Greek* (Appleton, $1.00); Manual of Mythology; Harper's *Dictionary of Classical Literature and Antiquities* (Harper, $6.00).

EDUCATIONAL VALUE OF GREEK IN THE HIGH SCHOOLS.

The editor of the HIGH SCHOOL BULLETIN, in his request for the chapter on Greek, suggested this paragraph in words almost exactly those of the title-line. Frankly, back of the suggestion is the fact that for a number of years there has waged a fierce controversy as to the value of Greek in our educational system. As the result of this controversy, the status of Greek at the present time is uncertain. Whereas in times past it was included in the curricula of almost every college and high school as an absolute requirement for a liberal course of study, at present it is an "elective," a mere matter of choice on the part of the student whether he include it in his course of studies. Hence most of the high schools have ignored it completely, and many of the private schools have dropped it entirely. It is but fair, however, to state that this tendency is due to an utilitarian theory of education, the theory that no study is worth while if it cannot be turned at once into practical every-day usefulness, as arithmetic, the sciences, and perhaps the modern languages. Now this is too large a question to discuss in this space, since it involves the whole theory of education. Yet a reaction has begun, as the request for the paragraph bears some small evidence. It may not be amiss to call attention to a few wise considerations which have influenced our educators to encourage the study of Greek in the University and high schools of our State. Greek, then, has a twofold educational value:

I. *For General Culture.*

II. *For Mental Training.*

I. In the first place, it is almost self evident that if Greek is offered as a course of study in the State University, the head of the public school system, it should be offered also in the public high schools; for, like any other language, its rudiments are far more readily acquired and more easily retained in earlier years; but unlike modern languages which can be picked up quickly by ear, it requires time and application. Furthermore, the ultimate aim of the study of Greek is a knowledge of the character and thought of the Greeks and their contributions to our civilization. They have made much possible for us in the progress of life. The beginnings of most of our sciences, physics, medicine, zoology, sociology, politics, pedagogy, astronomy, mathematics, ethics, logic; the statement of every problem of our philosophy and often its final expression; the masterpieces and models of literature; the conception, crystallized for all time, of the world's ideal of beauty—these are some of the undisputed contributions of Greek thought to our civilization. Now, the only key that will completely unlock this treasure house of culture is a reading knowledge of the Greek language. So, then, when a student enters college, desirous of this culture, he should have had at least some practice beforehand in turning this key. He has this right as well as the student of Latin, mathematics, German or physics.

But is this culture so called worth the time and effort? Yes, if a student or his parents want it, especially on the elective theory of education, which prevails. But is it practical? Scientists like Huxley and Agassiz, statesmen like Gladstone, teachers of English like Palgrave and Moulton, a conclave of the lawyers at Ann Arbor, Cecil Rhodes, the empire builder, the vast army of clergymen, authors like Lowell and Charles Francis Adams—all have found this Greek culture practically valuable in life's daily work.

Some years ago in answer to popular demand the Prussian government established by the side of the old classical schools, called gymnasia, scientific training schools, roughly corresponding to our A. and M. colleges. These new schools required no Greek or Latin. After a sufficient number of years a commission was appointed to examine into the efficiency of the new schools. The report contained in substance this startling fact: that of average students from the two schools entering the universities side by side, the classically trained student outstripped his technically trained comrade in application and accomplishment, even in the pursuit of scientific research, and though handicapped with the lack of previous scientific training. In this connection also a quotation from the report of the Dean of the University of North Carolina for 1907: "It may be of interest to not that 31 of the 47 Bachelors of Arts (class of 1907) were from the course known as group 1 (requiring Greek and Latin) * * * This does not mean that the course laid down for group 1 is more popular. The number of students who begin that course as freshmen is much smaller, but they are more likely to remain four years for graduation. And of the twelve students whose scholarship at the end of the Junior year entitled them to membership in Phi Beta Kappa, ten are in that course." The inference is that Greek has a value in giving not only versatility and scholarship, but also staying power. And herein lies its value.

II. *For Mental Training.* The old idea that the school and college are places for the acquisition of knowledge in the form of facts, is giving place to the metter conception that their primary function is the formation of character, mental and moral. Habits of accurate thought, persistent effort, the discipline of doing faithfully the most irksome task; the cultivation of sound judgment, liberality of view; the cultivation of the faculties of imagination, reason, and observation—these are the residuum that survives the ten or twelve years of scholastic training. These qualities, just as the brightest electric light, are not obtained unless the current of effort is passed through a medium of great resistance. Nothing easy is worth while. That Greek is the best instrument for such training is the concensus of opinion of classical pedagogy, but the writer prefers to refer the question to the student himself. It has been his custom to take his second year classes into his confidence, and ask for honest answers to certain questions. The answers are written, and the papers for obvious reasons unsigned. Questions: 1. ''Why did you begin the study of Greek?'' 2. ''Do you like or dislike Greek? Your reasons.'' 3. ''Your chief difficulty?'' 4. ''Suggestions to your instructor as to methods of teaching?'' I give the answers of the Greek 1 class, numbering fifty-two, of 1908, as typical. The answer to the first question was almost unanimously that parents, or teacher, or college friend had advised it. In answer to the second, four ''disliked'' Greek ''because they had no aptitude for languages.'' Of the forty-eight who liked Greek I give the types: ''Because it is hard,'' ''It makes me work like mathematics,'' ''I see it is the best training,'' ''It appeals to me somehow,'' ''There's more to it,'' ''The Greeks had more beautiful ideas than most people,'' ''I don't think a man's education is complete until he has read Homer in the original.'' ''I like its simplicity and beauty,'' ''I can see what a Greek writer says or means,'' ''It helps me to understand English,'' ''It increases my English vocabulary.'' With a few exceptions the answers to the third and fourth questions were to the same purport, and much to my surprise: 3. ''Lack of preparation,'' 4. ''Drill us more on forms and syntax.'' Is Greek dead or dying? Not in the University of North Carolina. The full significance of the answers quoted is left to the thoughtful, except in so far as they answer on the part of the student himself the query of this paragraph, ''Is Greek Good Mental Training?'' He testifies: It is hard and therefore good discipline; it is interesting; it contains the beautiful; it is necessary to a rounded education; it has the quality of simplicity; it is good training in English. Crude of statement as their observations are, Matthew Arnold himself could hardly have characterized the language better. As for the educational value of Greek in the high schools, he will not be a wise superintendent who ignores this evidence; nor will he be a faithful teacher who ignores the strictures in the answers to questions three and four.

GERMAN

W. D. TOY, *Professor of the Germanic Languages and Literatures.*

The purpose of the high school course in German is to lay a good foundation for the accurate translation of the language into English. With this beginning the pupils will be able to pursue the study with profit after leaving the high school, or they may continue to study German there, as soon as it is possible for the high schools to provide further instruction. The successful completion of the two years' course outlined below will enable the pupil to satisfy the college entrance requirement without condition. Good results cannot be obtained by shortening the period to one year.

The end in view is the ability to translate accurately, but this end cannot be attained without good training in regard to the mutual relations of the elements of the sentence employed by language to express thought. The elements of the sentence are the various parts of speech. The mutual relations of these elements are expressed by grammatical forms. German is rich enough in inflections to present a clear picture of syntactical relations. It is therefore the duty of the teacher of German to give his pupils the instruction in clear thinking which is to be had from the study of the language. This analytical study need not be burdensome, but especially in German an accurate acquaintance with the structure of the sentence is indispensable for correct translation.

All grammatical terms should be explained and practiced, until they receive a real meaning in the pupil's mind. With each grammatical form should be connected a definite meaning, and these forms should be illustrated in sentences until the proper usage becomes instinctive.

It is well to begin the study of the verb early in the course, taking first the indicative tenses of *haben, sein,* and *werden;* then the whole of the weak verb, except the subjunctive mode. The class will then be ready to learn a few common strong verbs, and from this time on the principal parts of strong verbs should be rehearsed in connection with the reading. The simpler uses of the subjunctive may then be learned along with the forms. Regular translation in a reading book may be begun as soon as the weak verb is learned.

PRONUNCIATION.

It is taken for granted that practical drill in pronunciation has been given at the beginning of the course. The teacher should take every possible means of making his own pronunciation pure, for his will be the standard of the class. Description of the German sounds are found in the grammars, especially in Thomas' *Practical German Grammar;* but the teacher himself ought to be trained by a competent authority. Great help may be obtained by conversation with educated Germans. From the beginning the pupils should be encouraged to read German sentences fluently. The pronunciation of German is regular and consistent.

TRANSLATION.

As soon as regular translation is taken up, the grammar lesson may be made shorter; but it is best to have both translation and grammar at each lesson and the grammar should be illustrated by the reading. The translation should be exact and idiomatic. Teachers are advised to let the pupils read the whole sentence in German and thus take the thought in the original. A good exercise is to make in English a slight variation from a German sentence and let the pupil turn it into German.

ORAL PRACTICE.

Throughout the course it is important to have daily oral practice. The forms of the language may be learned in this way more intelligently than by the recitation of paradigms.

For these oral exercises the teacher may find material in the German sentences given in the grammar, if he is not prepared to attempt regular conversation. Thomas' grammar contains excellent conversational material and may be used to advantage by the teacher, even if the class is studying another book.

GRAMMAR AND READING.

In determining the amount of grammar and reading to be accomplished in each of the two years, teachers may be governed by the age of the pupils. It is better to do thorough work than to cover a large amount carelessly. A suggestion is given below of how the material may be distributed. By the end of the second year the class should have mastered what is usually contained in the grammar exclusive of the theoretical study of the syntax; and they should be able to translate without much difficulty simple German prose and to turn easy English sentences into German. The exercises given in the grammar should be carefully written, corrected and reviewed.

The number of recitations per week should be five, thus allowing time for short lessons, frequent reviews, oral exercises, and dictation.

FIRST YEAR.

*Ball's *German Grammar* (D. C. Heath & Co.), the first 40 lessons; Guerber's *Marchen und Erzahlugen,* Part I, (D. C. Heath & Co.).

SECOND YEAR.

Ball's *German Grammar,* to be completed with review of the work of the first year. Moscher's *Willkomen in Deutschland* (D. C. Heath & Co.).

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*Thomas' *Grammar* may be used by the teacher as a reference work. If time allows, the class may read with profit *Gluck Auf* (Ginn & Co.), after completing the *Marchen und Erzahlungen,* before taking up the *Willkommen in Deutschland.*

FRENCH

PRONUNCIATION.

In the study of a foreign language, the learning of a good pronunciation is of the greatest importance for the beginner; yet, entirely too little attention is given to this matter in most classrooms. As we are concerned here exclusively with French, my remarks will be confined to that language. The best way to teach French pronunciation is by the phonetic method, and every teacher should be familiar with it. The phonetic alphabet commonly in use is that of the ''Association Phonetique Internationale'' which publishes a little paper, ''Le Maitre Phonetique'', edited by M. Paul Passy, at Bourg-LaReine, France. The words in the vocabularies of Fraser & Squair's *French Grammar* (D. C. Heath & Co.) are given, in parantheses, in this transcription. The teacher should become familiar with works on French pronunciation, such as the following: Matzke, *A Primer of French Pronunciation* (Holt & Co.); Passy, *Les Sons du Francais* (Paris, Firmin-Didot); Passy-Rambeau, *Chrestomathie Francaise* (New York, G. E. Stechert & Co., 3rd edition); Rousselot & Laclotte, *Precis de Pronunciation Francaise* (Paris, H. Welter.), etc.

The careful teacher will realize that he must proceed slowly and simply with young pupils, but let him not be discouraged on that account, for we set more store on a good groundwork in pronunciation and in the principles of grammar than on amount of translation done by pupils who enter the University.

The teacher should also give his pupils as much oral practice as possible, with books closed. The *ear* should be trained to recognize the sounds, and the ingenious teacher can devise interesting ways of doing this. He may make up short, simple questions, making the pupil repeat what he says and requiring him to answer in French with a *whole sentence,* no matter how simple at first; or he may make him reproduce, sometimes orally and sometimes in writing, the substance of short and easy passages of the reading matter in hand. Frequent dictation exercises should be given also.

GRAMMAR AND READING.

The essentials of grammar, with the commonest irregular verbs, should be completed in the first year course, and should be reviewed in the second year.

It may be well to begin reading in the second half of the first year, but not before then, and the amount of reading given must depend upon the maturity of the class.

The number of recitations should be five a week.

Text books:

First year: Fraser & Squair's *French Grammar* (D. C. Heath & Co.); Lazare: *Lectures Faciles* (Ginn & Co.); or Snow & Lebon: *Easy French* (Heath & Co.).

Second year: Fraser & Squair's *French Grammar; Alternative Exercises to Fraser and Squair's Grammar* (Heath & Co.); Labiche: *La Poudre aux Yeux* (Heath) or *Le Voyage de M. Perrichon* (Heath); George Sand: *La Mare au Diable* (Heath).

SPANISH

See above under French for discussion of pronunciation, oral drill, etc.

TEXT BOOKS.

First year: Wagner's *Spanish Grammar* (Ann Arbor Press, Ann Arbor, Mich.); or Hills and Ford's *Spanish Grammar* (Heath); Bransby's *Spanish Reader* (Heath); Valera: *El Pajaro Verde* (Ginn & Co.).

Second year: Grammar reviewed and continued; Alarcon: *El Capitan Veneno* (Heath); Carrion y Aza: *Zaragueta* (Silver, Burdett & Co.); Taboada: *Cuentos Alegres* (Heath).

MATHEMATICS

ARCHIBALD HENDERSON, *Professor of Pure Mathematics.*

The requirements for unconditioned entrance in mathematics are as follows:

1. The whole of a high school algebra, including quadratic equations, binomial theorem, and progressions.
2. The whole of plane geometry.
3. The whole of solid geometry.

The preparation in mathematics in the high school for the University should cover a period of four years, taking five (5) forty-five minute periods each week. Needless to say, the issue is one, not simply of time consumed, but primarily of the thoroughness of the instruction and the enthusiasm and intellectual fertility of the teacher. From the outset, the student should daily, nay hourly, be instructed in the value of all mathematical study, from the scientific no less than from the utilitarian standpoint. The mere *data* of mathematics are of immense importance; for a world unbuttressed on the mechanical and material sides by the laboriously constructed mathematical bases of the centuries is inconceivable. The sky-scraper, the subway, the submarine cable, the bridge, and a thousand other witnesses of enlightened civilization testify to the quintessential importance of mathematical knowledge. It is perhaps an exaggeration to assert that were the superstructure of mathematics to vanish, our material civilization would fall to the ground.

However, the student should continually be reminded, by precept and example, of the ability to reason accurately, to imagine vividly and to gain genuine intellectual power through exercise of the mental faculties in mathematical studies. It has been the writer's experience that high school preparation in mathematics, as a rule, exhibits deficiency in this respect. The University instructor labors under the double burden of teaching his students the facts of mathematics, and also of inculcating in them the power of mental confidence, ability to handle a certain set of facts, and assurance that comes from belief in the validity of one's own mental process.

It is recommended, at the outset, that no time be lost in the high school through needless rehearsing of the same topics in different text books of only slightly increasing difficulty. Instead of putting the student first through a very elementary algebra, and then through a high school algebra and slightly removed in difficulty, let an algebra be chosen that is sufficiently complete for the course in the high school, without needlessly taxing the intelligence of the pupil in the beginning of the course. Let a course be chosen in which certain theorems, naturally belonging to a more advanced stage of progress, and many of the more difficult exercises, are judiciously omitted. In the second year, these more difficult theorems and exercises may be included and the course be made a complete and well-rounded whole. It also seems advisable, not to teach advanced arithmetic after a year has elapsed since the pupil last studied algebra. Advanced arithmetic is, of necessity, so algebraicized in its essence that it is very necessary for the algebraic thought-process in arithmetic to become a sort of second nature, intellectually, at the time the pupil is daily called upon to exercise it in his study of algebra.

The average high school pupil usually exhibits an unfortunate lack of comprehension, not of the value of the geometrical theorems—for to these he gives almost his sole attention! but to the necessity for devoting real attention to the logical and consecutive proof of the corollaries. The inability to grasp the essential nature of the corollary, its indispensability in the logical progression of the science, and to prove the stated corollaries of which the *proof* is left solely to the student, roughly marks the difference between the high school and the university in geometrical instruction. Somewhat less noticable is the failure of the high school pupil to realize that many an exercise is almost important enough to be stated as a theorem; and that the same care and precision and logic be bestowed upon the exercises as upon any other portion of the work.

The great transition stage in mathematical instruction is marked with the beginning of the study of trigonometry. Now that the best texts in trigonometry utilize the method of co-ordinates from the very start, it appears that just here comes the break between the lower and the higher mathematics. The introduction of the method of co-ordinates ushers the pupil into a totally new realm of thought and makes known to him wholly new concepts, not merely new but positively foreign to anything he has hitherto encountered. In view of this great lacune in elementary instruction, it is earnestly recommended that graphical methods in algebra be introduced as early and frequently as possible, so that, by easy steps, the pupil may be taught some conception of the fundamental principles of co-ordinate representation.

It is earnestly recommended that the following books be in the hands of every high school teacher, and that they be used throughout the four years' course in the light of pedagogic guides. *The Teaching of Mathematics,* by J. W. A. Young (Longmans, Green & Co.); *The Teaching of Elementary Mathematics,* by D. E. Smith (Macmillan); *A History of Elementary Mathematics,* by F. Cajori (Macmillan).

DRAWING

GEO. W. MITCHELL, *Associate Professor of Descriptive Geometry and Drawing.*

The subjects of Mechanical Drawing, Freehand Drawing and Descriptive Geometry are presented with the view of preparing the student for his future professional course on both theoretical and practical lines.

The work in Freehand Drawing is given for the sole purpose of teaching the student to make with rapidity and ease, technical freehand sketches, such as every practicing engineer is called upon almost daily to make in transmitting his ideas. No attempt is made to develop the subject from the artistic side.

The above refers to the drawing required in all scientific courses.

An elective course in Freehand Drawing is offered, consisting of pencil sketching and shading from models, natural objects and casts; pen and ink rendering and charcoal drawing. Lectures are given on historic ornament and the orders of architecture.

FREEHAND DRAWING.

The object of Freehand Drawing is to train the eye to see correctly and the hand to express the true appearance of what is seen.

The elementary principles of freehand perfection should be thoroughly taught. The writer does not believe in too much copying from the flat. but drawing from models and natural objects which can be readily provided. For the study of form and proportion. a medium soft pencil should be used. When the pupil is able to draw fairly well in outline, shading should be introduced, It is better at first to provide suitable natural objects for this purpose than the type solids. The pupils will readily see shadows and cast shadows upon common objects, vegetables, foliage, etc.

SOME SUGGESTIONS.

In drawing the outlines of leaf forms or from casts of ornament the following may be observed:

1. Draw the principal perpendicular and horizontal lines first, as we can judge of the slant of the oblique lines by comparing them with some standard lines.
2. Sketch the general shape of the object, and decide upon the correct, general proportions.
3. Draw the parts definitely and add no details until the work is accurately laid in.
4. Erase the lines until they are just visible.
5. Make the true outline.

I recall this placard which was hung in a prominent place before our class by the teacher, ''Draw lightly, Finish boldly.''

Draw leaves and flowers from nature. With the natural from as a basis, draw the convential form, which is regular and symmetrical. The convential leaf form is used in all good ornament.

Technical freehand sketching should be practiced in connection with the work in projection and mechanical drawing. To discover whether the student understands the principles of projection, freehand sketches should be required in perspective of the object and working drawings when the perspective is given. Work of this kind is excellent training. The successful draftsman of today is the one who is not only proficient and accurate with his instruments but who can readily interpret a working drawing by means of freehand perspective sketches, which the workman can more readily comprehend.

MECHANICAL DRAWING.

1. Lettering. Practice the single stroke letter, inclined and vertical. Rule light guide lines for the height of the letters. Make the body of the letters 2-3 and stems 1-3. Special paper for this purpose can be had from the publishers (Geo. Wahr, Ann Arbor, Mich.). Fill the sheet with light pencil guide lines about an inch apart. Make the inclined letters about 60 degrees or 2½ vertical to one horizontal.

2. Instrumental. Teach the proper use and care of the instruments. Begin with the measuring and spacing of lines, such as dividing a square into a number of equal spaces by horizontal lines, next vertical lines, third inclined lines, drawn with the 45 degree triangle. An excellent practice plate can be arranged for the use of the ruling pen.

EXERCISES WITH THE COMPASSES.

Geometrical constructions.

1. To bisect a given line or arc.
2. To erect a perpendicular to a line at any point.
3. From a given point, to draw a perpendicular to a line.
4. To draw one line parallel to another.
5. To construct a triangle with given sides.
6. To construct an angle equal to a given angle.
7. To divide a line into a given number of equal parts.
8. To bisect an angle.
9. To describe a circumference through the three given points not in the same straight line.
10. To draw a tangent to a circle at a point on the circumference.
11. With a circle, to circumscribe a triangle.
12. To inscribe a circle in a triangle.
13. To connect two straight lines by a reversed curve.
14. Upon a given base to construct any regular polygon.

The statement of the problem should be inked in single stroke letter about one-eighth of an inch high.

Follow the geometrical constructions with a plate of block and one of Egyptain letters.

PROJECTION DRAWING.

Because of its almost universal employment in practice, the third angle should be used. This angle affords the most logical arrangement of views, the top view being directly above the front elevation and the right and left side views at their respective sides of the front view.

As an aid in teaching projection drawing, the teacher will find the Projection Cage (hinged wire screens), manufactured by the Taylor Holden Co., Springfield, Mass., of service.

The outline of an object placed inside the cage may be traced on the screens with white or colored crayon. Upon opening the screens, that is, bring all four into the same vertical plane, the arrangement assumed by the different views is readily appreciated by the pupil.

OUTLINE OF WORK.

Projection of lines.
Projection of plane surfaces.
Projection of regular solids.
Plane sections of the regular solids.
Development of surface.
Paper construction of models from the developed patterns.

SIMPLE WORKING DRAWINGS.

Simple working drawings to scale of machine details, such as a lever, crank, pulley, eccentric, shaft coupling, etc. Particular attention should be given to the dimensioning of working drawings. All necessary dimensions necessary for the workman to make the object as it was intended without further explanation than that contained on the drawing. Place the figures on the drawing to read from the left to the right and from the bottom, upward. Make the bars of fractions in line with the dimension line, never diagonal.

Next in order should be the standard bolts, screws and nuts.

Make a drawing of the helix, which is the theoretical screw thread. Then the standard V thread, and the different conventional ways for representing the helical curves by straight lines.

Tracings should be made of some of the drawings and blue prints taken.

The suggestions and outline of work as given would constitute a three years' course. Each teacher, of course, must plan the work to meet the needs of the students and for the time given the subject. It is a resume, off-handed, from the experience of a number of years in teaching drawing in the public school, technical and college. Students having had such a course are well prepared to take up the work as given in the engineering drafting classes of the University.

The following text books are recommended:

Art Education for High Schools, Prang Educational Co.; *Freehand Drawing, Mechanical Drawing, Light and Shade,* all by Anson K. Cross (Ginn & Co.).

Prospective Sketching from Working Drawings, Frank E. Mathewson (Taylor-Holden Co., Springfield, Mass.).

PHYSICS

A. H. PATTERSON, *Professor of Physics.*

To satisfy the entrance requirements in physics the student must have completed *a good high school course.* If pursued under a teacher, a certificate of satisfactory attainment must be presented; if done by private study an entrance examination must be passed. Teachers should be very explicit in their certificates, especially about laboratory work taken; if a good laboratory course has not been available the student may be passed on the class work, but required to make up the work in the laboratory.

TEXT BOOKS.

A good text book should be used in preparation; such books as Steele, Quackenbos, Higgins, Gage's Introduction, etc., are not adequate for a high school course. Millikan and Gale is highly recommended; it is used in the freshman class at the University. Carhart and Chute's *High School Physics,* and those of Hoadley, Wentworth and Hill, Mann and Twiss, and Cheston, Gibson and Timmermann are among the best. If the time allowed is not sufficient to cover the whole book carefully, spend at least half the time on mechanics of solids, liquids, and gases. It is in this part of the work that students usually show poor preparation.

ACCURACY OF STATEMENT.

Special attention should be given to definitions of physical terms and the correctness of theories. Accuracy of statement should be made a matter of first importance, for science requires accuracy above all things. For example, such terms as work, energy, etc., are used in a very much more restricted sense in physics than in ordinary life. A dozen men may ''work'' half a day to move a stump, and yet until the stump is actually moved no work, in the physical sense, is done upon it. Work in physics means not the effort put forth, but the result accomplished. And so with other terms.

The subject of units is at once the most important and the least interesting. Students come up for examination who claim to have had a full year's course in physics, and who yet cannot tell what a poundal is, or a dyne, or a grain. For example, if the question is asked: ''What is the kinetic energy of a mass of 16 pounds moving with a speed of 10 feet per second?'' the student usually reasons thus: ''The expression for kinetic energy is ½mv2, so multiplying out we get 800 as the kinetic energy,'' and he proceeds to answer that the amount of kinetic energy if 800. ''Eight hundred *what?*'' is asked, and the student looks blank. After working over it, the best he can do usually is to say that the answer is in foot-pounds, whereas if he had been carefully taught he would have known that the expression ½mv2 gives the energy in foot-*poundals* if English units are used, or in *ergs* if metric units are employed. And so with other formulae and expressions. *No answer should be accepted unless the units are named,* as well as the numeral part of the result given.

LABORATORY WORK.

As to the laboratory work, plenty of time should be allowed, and painstaking accuracy should be insisted upon. A very good plan is to use the national note book sheets, obtained from L. E. Knott Apparatus Co., 15 Harcourt St., Boston, Mass., who also manufacture the apparatus to be used. It is good and inexpensive. Among good laboratory manuals are Millikan and Gale, Coleman, and Cheston-Dean-Timmermann.

Any of these books may be ordered through the nearest book store. Where little money is available, a good deal of apparatus may be manufactured by the instructor, and Dr. Woodhull's little book on "Home Made Apparatus" for physics, chemistry and physiology will be found most helpful. It may be obtained from A. S. Barnes & Co. If a good fund is available for the purchase of apparatus it is earnestly advised that a catalogue of high school apparatus be obtained from Wm. Gaertner and Co., 5347 Lake Avenue, Chicago. This contains a full list of pieces marked under several heads; one mark means that those pieces should be purchased with the first money available, another mark means that those pieces so marked should be next purchased, and so on until a full set is obtained.

Problem work is exceedingly important, and should be emphasized. No student knows a subject until he can apply that subject in a practical way.

THE TEACHER.

Finally, it is the *teacher,* after all, who makes a success or failure of any course. No matter how good the text book, how ample the apparatus, how diligent the student, if the teacher is not fitted to teach the subject the results will be unsatisfactory. If that is the case, the teacher is urged to prepare himself or herself more thoroughly by a course in some good summer school.

PHYSICAL GEOGRAPHY

COLLIER COBB, *Professor of Geology.*

PURPOSE OF THE COURSE—TRAINING FOR SERVICE.

The study of the earth sciences is designed not merely to give the pupil a knowledge of facts regarding the earth, but to give him some insight into the laws of nature, and to train him in such a way in field observation and laboratory practice as to fit him for effective service in whatever field of labor he may find himself.

It is the same old story with all effective education, which comes through seeing, thinking, doing. No other subject serves this purpose so completely as geography, which Herbart has called the associating science.

The common American greeting, "How do you do?" should bring teachers to a realization of the demand of the land and the times for education through doing and education for doing; and geography in its various aspects has more relations to human activity than any other study in the curriculum. Its intimate connection with history was long ago recognized; and all of us are what we are largely because we are where we are. Yet man, through a knowledge of his surroundings, may gain a mastery over nature or adapt himself to his environment. That education is best which gives one this power.

PHYSICAL GEOGRAPHY DEFINED.

It is only within recent years that geography could properly be called a science, consisting a generation ago of little more than a bald "description of the earth, its phenomena, its countries, and its inhabitants." Then physical geography had a fairly well recognized field of knowledge, not clearly delimited it is true, and having to do chiefly with nature's more spectacular phases, volcanoes, earthquakes, tides, tornadoes, glaciers, races of men, but dealing in nowise in a satisfactory way with the causes or effects of these physical features and phenomena. The knowledge it presented was well worth having, and much of it is too often overlooked in our elementary work today; but its methods are now open to criticism.

From being a mere description of the earth, geography today includes not only the phenomena pertaining thereto, but their areal distribution, and causes therefor. This phase of geography had its origin in America, and began in the energetic study of topographic forms, involving their genesis and classification. This new science became known as physiography, a name borrowed from England, where the term is still used in its etymological sense, and includes the whole realm of nature.

With the rebirth of physiography came the introduction into it of the laboratory method of teaching, thus putting it on the same basis as other physical sciences. Today both physical geography and physiography are clearly recognized as distinct phases of earth science, and of very unequal difficulty; physical geography should be taught to all pupils as the geographic course preceding the high school, or in the first year of the high school; physiography is to be offered toward the close of the high school course. Advanced physiography is distinctly a university study.

The confusing of two ideas and the effort to adapt the more specialized course to young pupils who need a broad, interesting, unspecialized introduction to earth science, has deprived the pupil in the grammar grades of an interesting study and a distinctive stimulus to the imagination, which President Eliot has spoken of as the greatest of human powers, no matter in what field it works. True, advanced physiography demands a well-ordered imagination in the university student, which does not come at his bidding unless he has had proper training in the grammar grades; but the subject as taught in the colleges is powerless to develop this imagination in the younger pupils of the schools.

PRESENTATION OF THE SUBJECT.

In presenting the subject of physical geography, the teacher should have constantly in mind that he is training the pupil for life, for a proper appreciation and understanding of his surroundings, rather than fitting him for college. He should bring himself to a realization of the meaning and scope of his subject, dealing with real things, and touching life at every point. Physical geography is coming more and more to be the study of the earth in relation to life; and the earth is to be looked upon as a field for the development of organic life.

Mackinder, of Oxford, has defined geography as a study of the present in the light of the past. When thus conceived it forms a fitting complement to geology, which, as defined by the same author, is the study of the past in the light of the present. The studies are inseparable, and, up to a certain point, their physical aspects may be well followed together under some such name as physiography. (Davis.)

But geology is the science which investigates the history of the earth, and the rocks of the earth's crust contain the records of this history. Geological study shows, too, that forces similar to those of the present have been operating in the past, and most naturalists believe that they are sufficient, given ample time, to account for all the changes that have taken place in the earth's crust. But geography is only geology in the making. It is to geology what the daily newspaper is to history.

STUDYING THE MATERIALS OF THE EARTH'S CRUST.

There is no reason, then, for deferring until the college years the study of common rocks. The child, even in the kindergarten, may gain a speaking acquaintance with them, may know them when he meets them in the road. The characters by which they may be recognized, and something of their history, he may learn by direct observation and simple experiment. To let a single example suffice: he may learn readily that sandstone is simply grains of sand cemented together, and the size and shape of the grains as well as the nature of the cement he may discover for himself, if the teacher will direct as well as guide the pupil's interest. Similarly, the child should learn at first hand something of plants and of animals.

Now all of this may not be physiography, but it does lie at the very foundation of the study of physical geography, and is within the comprehension of the children in the grammar grades, certainly within the comprehension of pupils in the first year of the high school.

FIELD-WORK.

The larger physiographic processes, requiring direct observation out of doors and on a larger scale than the laboratory study of rocks, are a little more difficult; but the process of weathering, the protective or destructive work of plants, of earth-worms, of ants, of the wind, the work of frost, may all be noted in any neighborhood. The teacher may not go very far afield with his pupils, but an interest in regional geography may be developed and lead to valuable results in a department of geography just now too much neglected.

All this leads to a knowledge of the simpler facts of physical geography, of which there is such inexcusable ignorance, even among persons otherwise well educated, that the French geologist De Launay recently published an article in *La Nature* (Paris, June 25), calling attention to the inexcusable ignorance of these subjects shown by authors of renown, and often even where their departments of learning demanded such elementary knowledge. De Launay calls it geology, but it is just as truly physical geography.

The effort made a few years ago to write physiography down to the comprehension of our public school pupils well nigh destroyed the interest in physical geography. In consequence of this there is now a strong tendency to return to the plan of giving "a broad, unspecialized but vivid course in physical geography." Such a course is already represented in our schools, but it needs to be brought more in accord with modern needs and modern scientific methods. It is with the problems of such a course that we are immediately concerned.

The choice of subject matter, the topics to be treated in this introduction to earth science, may be regarded as an open question. "If the subject matter now given in physical geography be ranged in the order of difficulty, beginning with the easiest, it would probably divide itself somewhat as follows: (1) common rocks and simple dynamics, subject to direct observation and experiment; (2) unobserved but spectacular forms and processes, the descriptive material such as constituted the bulk of physical geography twenty years ago; (3) genesis and classification of land forms." (Fenneman.)

COMMON MINERALS AND ROCKS.

"The subject of common minerals and rocks is not only relatively easy of comprehension, but calculated to hold the interest of children. The subject is eminently concrete and needs little imagination. The facts need pointing out rather than explaining." A number of years ago (1883-'84) the writer gave a course in the common minerals and rocks to seventh and eighth grade pupils in the Wilson Graded School, who took the course with enthusiasm, and made and cared for a fine collection of the common minerals and rocks of the county, a county not supposed to possess any minerals. Crosby's *Common Minerals and Rocks* (60 cents) was used in connection with the study. Though now decidedly out of date, this little book is still the best for the pupil's use; but the teacher should make constant use of such a manual as Pirsson's *Rocks and Rock Mineral* ($2.50). The subject is far simpler and easier than the systematic study of land forms, and is certainly adapted to younger minds.

GEOGRAPHIC PROCESSES.

I can not do better than to quote again from Professor Fenneman: ''Probably a little more difficult than the study of rocks is that of those processes which may be subject to direct observation or experimentation. It is assumed here that, in the main, each process can be watched while it makes appreciable progress, as, for example, evaporation, or the solution of limestone in water carbonated by the breath, or transportation along a beach; or the process, if not watched, may be one which appeals to the imagination as a single act, as the breaking of rock by frost; or one whose evidences are vividly concrete, as the oxidation of a rock with change of color. Of this nature are most of the weathering processes. Consider the natural sand blast, the making of caves, the work of plant roots, of earth worms, etc.; the issuance of spring waters, etc.; the rounding of stones and the production of sand and mud by attrition; the undercutting of stream banks; transportation in solution, in suspension and at the bottom of the streams, etc. All these and many others are so simple that they need pointing out rather than explaining, and once consciously observed, they will offer a constant allurement to the observation of natural processes, preparing the mind for more technical studies. * * * It is certainly easier than the study of land forms, and fitted to interest younger minds. The strain on the imagination begins when the topographic effects of these processes are considered. That much of this study of processes is commonly called geology, and left to be taught under the name, can not be considered as a matter of weight."

BOOKS AND APPLIANCES.

The Maury's *Physical Geography* of the seventies presented in a way unsurpassed in its time the kind of descriptive geography best suited for informing the pupil of the world about him and stimulating his imagination. The earth as a planet, the air, the ocean, and the land, the life of the products of the earth, with the geographic distribution and physical relations, all recognized today as the principal themes of a well-ordered geography course, receive there a treatment stimulating to the pupil and fully in accord with the best knowledge and pedagogical methods of the last generation. The pity is that such an admirable book has been revised out of existence in an effort to incorporate in it material and methods properly belonging to a college course, and just beyond the reach of the average high school pupil. It is fortunate for the pupil entering on this part of the study if his grammar school work has been done with some such book as Frye's *Complete Geography,* or the *Natural Advanced Geography* of Redway and Hinman, or the Tarr and McMurry geographies. But a suitable book for the course in physical geography here outlined has yet to be written; and this is doubtless best for the teacher, as it forces him to go to original sources of information, to geographical journals, and to the discussions of men actively engaged in geographical investigation and instruction.

The genesis and classification of land forms is a far more difficult subject. An acquaintance with the common rocks and some knowledge of nature's processes gained by first-hand study will gradually lead the pupil to trust his own eyes "in matters where process is revealed by its steepness, or the splitting of a ledge by frost is known by the presence of a talus, or the weathering of a limestone is shown by a yellow shell surrounding a blue interior. It is easy to find many illustrations in almost every locality. It is practicable to bring indoors many specimens to be used in a similar way, and when a start is thus obtained by observing nature itself, pictures may be used for the same purpose.'' (Fenneman.)

Then the better known land areas may be described in accordance with the knowledge thus gained at first hand under the guidance of a skilful teacher; or, if the course is given in one year, this work had best be confined to our own continental area. Some attention should be given to modeling and map drawing. The proper use of topographic maps should be learned. The little book on *Governmental Maps,* by Davis, King and Collie, will be a great help with this part of the work. Professional paper No. 60, of the U. S. Geological Survey, on *The Interpretation of Topographic Maps* is indispensable to the teacher, and may be purchased from the Superintendent of Documents at Washington. *Map Making and Map Reading,* by Robert M. Brown, in the *Journal of Geography,* February, 1904, will be found very helpful. Goode's Sun Board is a simple instrument which is invaluable to the teacher who would make geography something real to his pupils. It may be used for a variety of purposes, among them to establish the true meridian of the observer and to determine his latitude. It is manufactured by the Central Scientific Company of Chicago, and sold by them for $12.00 net.

Enough practical use should be made of the weather maps ing of the general principles of weather changes and forecasts. Davis's *Practical Exercise in Physical Geography* is a valuable little book. But the teacher, having thoroughly acquainted himself with his subject, must work out his own methods in the field and laboratory. The best books are full of excellent illustrations, and they also furnish many references to the literature of the several subjects. Fairbank's *Practical Physiography* is especially worthy of note on account of its illustrations.

The teacher should own a copy of Salisbury's *Physiography.* He should, of course, be a subscriber to such a periodical as the *Journal of Geography* (Madison, Wisconsin, $1), and can get much help with the second part of the course from the *National Geographic Magazine* (Washington, D. C., $2.50). He should own some standard text-book of geology. LeConte's *Elements of Geology* ($4) presents the subject in the most attractive way, but it has not been kept fully abreast of geological progress. The *College Geology* of Chamberlain and Salisbury ($3.50) is very valuable, and every geography teacher should begin his professional library with *The New Basis of Geography* ($1.50), by Jacques W. Redway. A suggestive book for the teacher is Sutherland's *The Teaching of Geography,* and every teacher should own a copy of Hodge's *Nature Study and Life* (Ginn & Co.).

Above all, the teacher should prepare himself to teach such a course. He may get much help by attending a good summer school where physical geography is taught. He will find a magic lantern an invaluable aid in his work. Text-book illustrations should be supplemented by diagrams, photographs, lantern slides, etc., and should be further enforced by frequent trips to points of interest out of doors. Is such a course as that here indicated possible in the high schools of North Carolina? Clearly, yes; but we cannot come to it immediately, but must work up to it carefully and by degrees.

PHYSIOLOGY AND HYGIENE

CHARLES S. MANGUM, *Professor of Anatomy.*

STRIVE FOR PRACTICAL RESULTS.

If physiology and hygiene are to be taught in the high schools of the State, an effort should be made to secure practical results. The more mature mental development of the pupil and the courses in elementary physiology given in the lower grades should make it possible to offer something approaching a genuine scientific course. Especial emphasis should be laid upon practical hygiene, and the teacher should bear constantly in mind the reasons for teaching physiology in the elementary schools, and strive to develop from the school children a citizenship which will be an aid and not a hindrance to the health officer.

METHODS OF INSTRUCTION.

The laboratory method of instruction should be followed as far as circumstances will permit, and this may be done without great expense and with greater ease and facility than would at first appear. The lessons in physiology and the talks by the teacher should be supplemented by dissections and demonstrations made by the teacher, using as material the frog, the fish, the chicken, the cat or rabbit. When the pupil has seen the muscles, the brain and nerves, the heart and blood vessels and the abdominal organs with their relations, the study of their functions must of necessity become more interesting and the knowledge gained will have some practical significance. The teacher who undertakes this work should have had a course in zoology, including vertebrate anatomy.

Of the above material the organs of the cat or rabbit will approach nearest to those of the human body. This material may be preserved from day to day for an indefinite period by keeping in jars or covered tin buckets filled with a 2 per cent. solution of formaline, or 50 per cent alcohol.

HELPFUL BOOKS.

Two books which will be of great assistance to the teacher are: *Vertebrate Zoology*, by Kingsley (Henry Holt & Co.); *Vertebrate Zoology, A Guide to Dissection,* by H. S. Pratt (Ginn & Co.).

EMPHASIZE THE PRESERVATION OF HEALTH.

Under the subject of hygiene, those things should be emphasized which bear directly upon the daily life and the health of the community.

The causes of infectious diseases and the simple means by which the spread of the contagion may be prevented; the reasons for instituting a quarantine, how it is done and the duty of the public not only to submit but to co-operate for the benefit of the whole community.

Water, the most important single agent for the maintenance of health; its use internally and externally; internally for the purpose of washing out of the system those poisonous waste products which, if allowed to accumulate, cause rheumatism, gout, skin disease, stones in the kidneys, etc.; externally as nature's great cleansing agent for man and the ground on which he lives, the sources of contamination of drinking water and the diseases (especially typhoid fever) which are conveyed through contaminated water; the importance of thorough drainage of all stagnant pools and marshy places; and the mosquito as the cause of malaria. Other subjects, as ventilation and the advantages of the out door life, the precautions which should be taken when a member of the family has tuberculosis, the dangers which lurk in improperly cooked food, etc., may be taken up much in the same way. The teacher will find the physicians of the community both willing and anxious to aid such work by practical suggestions and even actual instruction. The use of the microscope, if practicable, will be found of the greatest value.

With regard to the action of drugs and stimulants, the simple truth should be taught, unadorned by imaginary horrors. Surely their evils are great enough and sufficiently in evidence to make it unnecessary to exaggerate them and thus destroy the value of the lesson when the pupils discover that their credulity has been imposed upon.

THE TEACHER.

The choice of the text book is not so important as the choice of the teacher, for a well trained teacher can get good results even with a poor text book, but without a competent teacher, the best text book will be a failure. The more advanced text recommended for the schools of the state will suffice, provided the teacher supplements it by his personal efforts.

I have made the suggestions embraced in this article because I am convinced that, unless an effort is made to broaden the scope of instruction beyond what is now given in the elementary schools, it were better to omit entirely the study of physiology and hygiene from the high school courses.

BOTANY.

W. C. COKER, *Professor of Botany.*

THE EDUCATIONAL VALUE OF THE BIOLOGICAL SCIENCES.

The right of the biological sciences to a place in the school curriculum must depend, of couse, on their educational value in the largest sense. Until comparatively recent years these sciences have stood on the defensive, and their right to a prominent place in general education was denied. But we have entered upon a new day. The traditions of centuries have been set aside, and the inertia of long established thought has yielded to the momentum of results.

It is not necessary that the educational value of botany and zoology be considered separately. Their claims are identical. Both stand in the most intimate and vital relation with modern life and progress. Agriculture, forestry, medicine, sanitation and hygiene are all founded upon them. Can we think of any other group of factors on which the progress of our civilization more closely depends?

It has been said, and truly, that education should consist in placing the individual in harmony with his environment. Can that man be said to be in harmony with his environment who from ignorance of the simplest laws of sanitation will allow the typhoid-carrying house-flies full access to the filth of outhouses and then permit them to break bread with him at the same table? Or can that woman be said to have harmonized herself with the world, who, from lack of knowledge of hygiene, undermines the health of her child for life? It is in the biological courses that subjects such as these must be taught, and it is a reproach to our civilization that any boy or girl should be allowed to leave the high school without that knowledge which is essential to the health of every member of the community.

The economic importance of the science of botany is too obvious for comment. Through its influence millions are being added each month to the wealth of America, and there is no limit to the possibilities of its future usefulness.

As a body of knowledge, therefore, the biological sciences are of supreme importance; but it is not here that their educational value ends. As a means of training the senses, of arousing intellectual curiosity, and stimulating thought, they are equally important. The power to observe accurately and to question intelligently are encouraged as in all science courses, and in addition the interest of the student is more easily aroused in living than in lifeless things. Many of the objects of these studies are those which he is intimately associated in his daily life. He has questioned them from his childhood, and has taken them into his heart. They are his friends.

This arousing of interest in the living world about us is by no means the least important result of the study of biology. There is scarcely a moment when we are not in direct contact with living things, and when once the mental attitude to observe and question and enjoy them is secured, the whole of life is enriched thereby.

The culture value of the study of biology cannot be overestimated. It urges us daily into the invigorative air, the fields and the woods. It sustains our interest in every environment, opens up an inexhaustible world of beauty, and leads direct to personal contact with the great primal sanities of nature.

How pitiful the plight of the man or woman who, like the Olympians in "The Golden Age", "never set foot within fir woods or hazel copse, nor dreamt of the marvels hid therein."

OUTLINE OF A ONE-YEAR COURSE IN BOTANY.

The content of a botanical course in the high schools should depend entirely on the amount and kind of work done in the other biological sciences. If nature study has been properly taught in the grammar school or in the first grades of the high school, and if an equivalent course in zoology, including physiology and hygiene, is offered then the course in botany as outlined below would be in order. If place cannot be found for a course in both zoology and botany the two subjects should be combined into a general biology course and material from each selected according to the judgment of the teacher.

As a basis for discussion we cannot do better than give the course in botany as recommended by the Committee on a College Entrance Option in Botany, of the Society for Plant Morphology and Physiology. This course has been approved by the Examination Board of the Middle States and Maryland as its college entrance requirements, and is therefore a recognized standard for high schools. The report is as follows:*

A. IN ANATOMY AND MORPHOLOGY.

Seed. Four types (Dicotyledon without and with Endosperm, a Monocotyledon and a Gymnosperm); structure and homologous parts.

Food supply; experimental determination of its nature and value. Phenomena of germination and growth of embryo into a seedling (including bursting from the seed, assumption of position and unfolding of parts).

The shoot. Gross anatomy of a typical shoot; including relationship of position of leaf, stem, (and root), the arrangement of leaves and buds on the stem, and deviations (through light adjustments, etc.,) from symmetry.

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*Since these pages went to print there has come to hand a slightly revised (fourth) report of the Committee. It can be found in *The School Review*, vol. 16, for November, 1908.

Buds, and the mode of origin of new leaf and stem; winter buds in particular.

Specialized and metamorphosed shoots (stems and leaves). General structure and distribution of the leading tissues of the shoot; annual growth; shedding of bark and leaves.

The root. Gross anatomy of a typical root; position and origin of secondary roots; hair-zone, cap and growing point. Specialized and metamorphosed roots. General structure and distribution of the leading tissues of the root.

The flower. Structure of a typical flower, especially of ovule and pollen; functions of the parts. Comparative morphological study of six or more different marked types, with the construction of transverse and longitudinal diagrams.

The fruit. Structure of a typical fruit especially with reference to the changes from the flower and from the ovule to seed. Comparative morphological study of six or more marked types, with diagrams.

The cell. Cytoplasm, nucleus, sap-cavity, wall. Adaptive modifications of walls, formation of tissues.

B. IN PHYSIOLOGY.

Role of water in the plant. Absorption (osmosis), path of transfer, transpiration, turgidity, and its mechanical value, plasmolysis.

Photosynthesis. Dependence of starch formation upon chlorophyll, light, and carbon dioxide; evolution of oxygen, observation of starch grains.

Respiration. Necessity for oxygen in growth, excretion of carbon dioxide.

Digestion. Digestion of starch with diastase, and its role in translocation of foods.

Irritability. Geotropism, photropism, and hydrotropism; nature of stimulus and response.

Growth. Localization in higher plants; amount in germinating seeds and stems; relationship to temperature.

Fertilization. Sexual and vegetative reproduction.

C. IN ECOLOGY.

Modifications (metamorphosis) of parts for special functions.

Dissemination.

Cross-pollination.

Light relations of green tissues; leaf mosaics.

Plant Societies; Mesophytes, Hydrophytes, Xerophytes. Climbers, Epiphytes, Parasites (and Saprophytes), Insectivora.

Plant associations, zonal distribution.

D. CLASSIFICATION.

A list of recommended types from which, or their equivalents, selections may be made:

A. Algæ. Pleuroccus, Sphaerella, Spirogyra, Vaucheria, Fucus, Nemalion (or Betrachospermum or Polysiphonia or Coleochaete).

B. Fungi. Bacteria, Rhizopus, yeast, a rust (Puccinia) (or a powdery mildew), mushroom.

C. Lichens. Physcia (or Parmelia).

D. Bryophytes. In Hepaticae, Radula (or Porella or Marchantia). In Musci, Mnium (or Unaria or Polytrichum).

E. Pteridophytes. In Filicineae, Aspidium, or equivalent, including, of course, the Prothallus. In Equisetineae, Equisetum. In Lycopodineae, Lycopodium, and Selaginella (or Isoetes).

F. Gymnosperms. Pinus or equivalent.

G. Angiosperms. A Monocotyledon and Dicotyledon, to be studied with reference to the homologies of their parts with plants of the leading subdivisions and principal families of angiosperms.

SOME CHANGES SUGGESTED.

Under present conditions in North Carolina it would seem desirable to modify the above course in several respects. This is an agricultural state and a more direct reference to the agricultural side of botany could be made to advantage. To make room for such work it is suggested that the section on Ecology be omitted and selected studies be inserted from the little text book, *Agriculture for Beginners,* by Burkett, Stevens and Hill. Under the Algae I would suggest that Tetraspora be inserted in place of Sphaerella and that Brown and Red Algae be omitted. In Hepaticae, Pallavicinia and Porella are the best types to use. The work on bacteria should emphasize primarily the practical side in relation to house-keeping and sanitation.

STUDY GROWING PLANTS.

It will be found of great advantage to have growing in the laboratory or out of doors a number of our commoner field plants, such as corn, cotton, peanuts, oats, wheat, cowpeas, and crimson clover, as well as such garden plants as lima beans, beets, Irish potatoes, and mustard. It is questionable whether it would not be better to omit entirely all work on Algae, Fungi, Lichens, and Bryophytes and devote the time occupied by them to a detailed study of a half dozen of the above mentioned plants from the sprouting of the seed to the maturity of the fruit. In connection with this work it would be of the greatest advantage to introduce the study of variation, mutation, plant breeding and evolution. The students should be encouraged to plant a number of seeds from a single plant and look for variation from the off-spring. They would be interested in planting at home a number of seeds from the same peach tree and noticing the difference in the fruit of the those in the above groups; together with the representative seedlings, also in looking for variation in the size, shape, and maturity of the persimmon, etc. Many other such interesting exercises will suggest themselves. Throughout the entire course emphasis should be placed on the practical side and the student taught how to take care of plants and to get the best results from their culture.

APPARATUS.

A botanical course as above outlined would require the use of the compound microscope. It should be possible, however, in case of necessity to have two students use the same microscope without any serious disadvantage, and the number of exercises in which the microscope is used might be reduced without serious harm. The other apparatus necessary should not cost more than two or three dollars for each student.

TEXT BOOKS.

It will be impossible to find a text book that will cover the ground with satisfaction to all teachers, and it is necessary to have in the laboratory a number of books for the student to refer to. As text books for students the following are recommended: *Botany All the Year Round,* by E. F. Andrews (American Book Co.), simple but good; *Foundations of Botany,* by J. Y. Bergen (Ginn & Co.); *Principles of Botany,* Bergen and Davis (Ginn and Co.). The instructor is advised to have the following books in the laboratory: *Experiments with Plants,* by W. J. V. Osterhout (Macmillan Co.); *The Evolution of Our Native Fruits,* by L. H. Bailey (Macmillan Co.); *Plant Breeding,* by L. H. Bailey (Macmillan Co.); *Principles of Plant Culture,* by E. S. Goff (published by the author, Madison, Wis.); *Principles of Agriculture,* by L. H.

Bailey, second edition, (Macmillan Co.) ; *Agriculture for Beginners,* Burkett, Stevens, and Hill (Ginn and Co.) ; *Garden Making,* by L. H. Bailey (Macmillan Co.) ; *Bacteria, Yeasts, and Molds in the Home,* by H. W. Conn (Ginn & Co.) ; *Plant Breeding,* by Hugo de Vries (Open Court Pub. Co.). A number of the more advanced text books should also be accessible.

ZOOLOGY

H. V. WILSON, *Professor of Zoology.*

Some high schools today offer courses in biology. In others the same ground is divided between courses in zoology and botany. A part of the ground may, and frequently is, relegated to a class in physiology. Since the same teacher has as a rule charge of these classes, it is easy to combine or subdivide. My own feeling is that the best grouping of the subject ground is between two classes of zoology and botany. With this arrangement the facts of human anatomy and physiology fall into their proper place along with similar facts relating to other animal bodies. The human body is thus seen from the start in its relation to analogous structures.

In outlining the following course of study I assume that the school has one or more microscopes, enough at any rate to permit each student to get a good look at the object, allowing him to compare the real thing with a black board drawing or chart. For such young students more than a small amount of microscopic work is not advisable. A good hand lens on the contrary may be constantly used to advantage.

BEGIN WITH THE VERTEBRATES.

I suggest that the course open with some consideration of the anatomy and physiology of the vertebrate animals. Let each student dissect a frog. Exact of him drawings and some written descriptions of parts. Follow this with the dissection of a fish (perch possibly). Demonstrate the chief organs in a dissected cat. Demonstrate the anatomy of a sheep's brain, beef heart. beef eye, beef larynx. Let the class see the beating of the frog heart after general death, and the circulation of the blood in the web of the frog's foot. Let them see under the microscope the blood of the frog and of man, and some of the tissues such as striped muscle, connective tissue, flat epithelium cells, and live ciliated cells. In connection with this part of the course some brief text in physiology, such as Foster and Shore's *Elementary Physiology,* should be used, the class reciting on selected passages.

With the help of a few dissections and some mounted specimens the classification of vertebrates may be discussed through the classes and orders. Allusion, especially if good charts can be had, to striking fossil forms such as those intermediate between birds and reptiles, is stimulating. In the spring the development of frog eggs and the metamorphosis of the tadpole may be followed with use of the lens. Some of the common species of the neighborhood, a dozen birds, a few mammals, some turtles, lizards, and snakes, some frogs and newts, should always be at hand, and whatever field observation can be carried out should be encouraged.

PROTOZOA.

Following upon the vertebrates a few protozoa should be studied alive. Their reproduction by division and the similarity between protozoan body and metazoan cell might be explained. Among the coelenterates hydra of course should be seen. The plan of body, motions, catching of food, and budding, form points of interest. Hydroids, jelly fish, and sea anemones might be exhibited and the formation of colonies briefly touched upon.

THE ARTHROPODS.

Undoubtedly the most instructive group next to the vertebrates is that of the arthropods. Let each student dissect a crayfish. Have some crabs and shrimps for comparison, also some amphipods and barnacles, some live isopods (pill-bugs and Asellus). Let the class study with lens, describe and draw, the external anatomy of numerous specimens of insects together with some spiders and myriapods. Most of such class material would best be preserved in weak formalin, but it is easy to keep on hand in the warmer months a variety of live specimens. The feeding habits of many insects are easily watched, and the study of the mouth parts thereby made more interesting. The histories of insects are exceedingly instructive. Among the common forms that are good for the study of egg, larva, and pupa, may be mentioned the potato bug, mosquito and midge (Chironomus), mud-dauber and common wasp, tobacco-fly. Some of the aquatic larvæ are objects of great interest while alive. Such are may-fly and dragon-fly larvæ and caddis-worms.

OTHER GROUPS.

With regard to the other groups the time at the disposal of the class will determine their treatment. The phyla and classes should certainly be mentioned and specimens shown. Some of the common types that may be kept alive, such as earth-worms and mussels, are excellent objects for study.

METHOD OF INSTRUCTION.

In such a course of instruction the reading of texts, listening to oral explanations, study of charts and black board figures, examination of demonstration material, are all excellent exercises. But much the most important part of any course in zoology is the actual study by the individual student of the animal placed before him. He should learn to describe in accurate English the object that he sees, and the dissection methods he pursues to reveal the internal organs. The great usefulness of simple outline figures should be emphasized. A text with plenty of illustrations, such as Davenport's *Introduction to Zoology,* should be used; not primarily for recitation but as a companion reader.

It is sometimes urged against the elementary science or nature courses of our schools that while they may arouse a mild interest on the part of the student, they do not develop and strengthen his powers of application and reasoning. By comparison with such school subjects as mathematics and grammar they undoubtedly are exposed to the danger of increasing a tendency toward smattering. It rests with the teachers to transform them into disciplines that shall contribute to the development of precise and logical thinking. In the school as in the college course this object can only be attained through a limitation of the ground to be covered. Too many facts must not be set before the class. With a proper number of well chosen facts to be verified or (in his own experience) discovered by the student, the powers of observation and description may be admirably developed by a course in zoology, and exercises in classification demand a great deal of reasoning. The character of the course should not, however, be made too severe. There is no occasion to emulate mechanics or the Latin grammar. There ought to be times in his zoological course when the student is put upon his mettle, and other times when he is made clearly to understand that he is to play for an hour with a lot of interesting animals, learning what he can about them. For this latter purpose nothing can excel the examination of a small aquarium well stocked with common pond forms such as protozoa, rotifers, planarian and naid worms, snails, and small crustacea.

THE HIGH SCHOOL LIBRARY

LOUIS ROUND WILSON, *Librarian of the University of North Carolina.*

AN EFFICIENT LIBRARY SYSTEM NECESSARY.

In the light of the facts contained in the report of the Superintendent of Public Instruction of North Carolina for 1908 and 1909, relating to the establishment and present condition of the one hundred and seventy-five high schools of the State, it is evident that they have unquestionably justified their creation as a necessary part of the State's educational system. From the plans recently formulated by the farmers and schoolmen providing for the teaching of agriculture and looking to the broader preparation of the high school pupil, it is equally evident that they are to extend even further their scope of usefulness. If they would render the State a still larger service in the making of good citizens, they must take the additional step of strengthening themselves within by means of a practical, efficient library system such as is now operative in more than thirty states of the Union. They must have library facilities, and these must be the very best.

I shall not attempt, except in an incidental way, to show the need of such a system; for the value of the library as an educational institution, second to nothing save the school, is a fact so generally recognized as to require no proof at my hands. I shall attempt, however, to show that there is a place in the State's library system for the high school library and what its functions are.

FOUR TYPES OF LIBRARY.

North Carolina's library system, at present, includes four types of library other than that of the high school; namely, the rural school library, the public library, the college library, and the traveling library. Each of these, while having as its goal the intellectual quickening of the State's citizenship and the broadening and deepening of its sympathies, is forced to work along its own definite lines. It is limited in its field of operation. The rural school library's work is with the primary pupil and the home from which he comes; the public, with the children and adults of a whole community; the college, with the student and professor; the traveling, with any of these other types, and is usually carried on through them. The traveling library is generally small, and is either used as a pioneer collection in a community which has previously not had a library or is made to supplement for a short period the collections in the other types of library.

Evidently, then, the high school student in the rural school district. is without any of the library facilities such as the primary pupil, the college student, and the adult possess and find essential to their best preparation for and enjoyment of life. The lower school library is closed to him, the public library is powerless to aid him, he may never go to college, and the traveling library cannot hope to serve him adequately. If the high school is in a city or town which has a public library the case is somewhat different, as every such library solicits the use of its collection by the school. But even in this case there are certain books which the school must provide for itself. The place, then, for the high school library is perfectly clear.

The services which it should render are not less so. They are three-fold, or rather, they affect three groups: the pupil, the teacher, and the community in which the high school is located.

THE LIBRARY AND THE PUPIL.

First of all, the high school library should furnish the pupil with working material, laboratory material, if books may be so called, in those of his studies which do not require mechanical apparatus. In literature and history, at least half his work should be done in the library or with material from its shelves. Even in the sciences and other studies where laboratory facilities are provided, he should find attractive books at his command to broaden his interests and fix his attention upon the work he has in hand.

Next, he should be supplied with a good working set of reference books covering not only the subjects contained in the curriculum but sufficiently extensive in their scope to answer such questions as may arise either in connection with his work or apart from it. This set should consist of dictionaries, encyclopedias, atlases, maps, handbooks, anthologies, collections of quotations, almanacs, year books, etc., covering all those subjects concerning which he is most likely to wish information.

Its third duty is to give, through the teacher best trained in library methods, or through a trained library secretary sent out for the special purpose, instruction in the use of the supplementary material and especially of the reference collection. The mysteries of the encyclopedia, the dictionary, the atlas, should be explained. Problems involving the use of the tables of contents and indexes of such books should be assigned until the pupil is taught how to use his material independently and with ease.

Carrying this duty of instruction a step further to its logical end, the library, however small, should make for the pupil's use a complete author-, subject-, and title-catalogue arranged alphabetically in dictionary form, of all the material it contains. Every pupil should then be trained to use such a catalogue intelligently; for in this day when every banker, lawyer, physician, manufacturer and man of large affairs, as well as the librarian, employs the principle of the card catalogue as a systematizing and time-saving device in his work, it is not only a mark of good scholarship and general culture to be thoroughly familiar with the principle, but an absolute necessity. For such a catalogue the teacher and senior pupils could write the cards, and a cigar box could be used for a case, or printed cards could be furnished by the Library of Congress at about a cent each.

The fifth service the library should render the pupil, however, is the last and greatest. It should kindle his enthusiasm for the things of life and the spirit. This it can best do by supplying him with a table of interesting, attractive periodicals and a number of shelves of books which, in spite of himself, will compel his interest, instruct his mind, and quicken the generous impulses of his heart. To find what these are is not difficult. The teachers can suggest books which have meant most to them. The pupils themselves can tell what books they have liked best. Lists can be secured from many sources. But care should be used in selecting them, and whether they are fiction, or travel, or biography, or poetry, or science, or what not, they should be vital.

THE LIBRARY AND THE TEACHER.

The teacher should also receive consideration on the part of the library. He should have free access to all the books which are at the disposal of the pupils in order that he may direct them intelligently in their work, and in addition he should have a few well-chosen, helpful books on the theories and methods of teaching. It is not to be taken for granted that he has had access to them before entering upon his duties as teacher, but such books as will aid him in the management of his pupils and the teaching of his subjects should be always ready at hand. The fact that there is a teachers' association library in the county does not minimize the necessity. The presence of such books in the high school's collection quickens the professional spirit of the teacher, and the school gains thereby.

THE LIBRARY AND THE COMMUNITY.

What service the high school library should render the community in which the school is located may still be open to question. In my opinion, however, after serving the pupil and the teacher, it should assume, as far as practicable, the functions of a public library. It should have a place in the community's life. It should receive the community's hearty support, and during those portions of the year when its volumes are not required for use in the school, they should be made to contribute to the use of the community in general. Care, however, should be taken that their special usefulness should not be impaired.

NUMBER AND CHARACTER OF BOOKS.

Such a library as I have indicated ought, sooner or later, to contain between 250 and 1,000 volumes. A few of these may have to be duplicates, and it may be well to place a few which are in constant use on a desk in the different class rooms All do not have to be obtained the first year. They, in all probability, cannot be; but each year should witness the addition of as many as possible. Few sets should be included except sets of first class dictionaries and encylopedias. It is the best policy to buy individual books wanted.

The question of cost naturally suggests itself. Good books in strong binding, with clear print and durable paper, are expensive. But it is true economy to buy them. Ways, however, can be devised for securing them, and it will only be a mark of a community's lack of resourcefulness and enterprise if it fails to equip its library fully.

THE LIBRARY ROOM.

An entire, well lighted, attractive room, with suitable tables, chairs, and shelves, should be set apart for library purposes; and the teacher best trained in library methods and the most advanced pupils should be placed in charge of it. Every part of the school's work should be so related to the library that it should in a very true sense be the vital center around which all the duties of the school arrange themselves.

INFORMATION ABOUT LISTS OF BOOKS AND LIBRARY METHODS.

The problem of establishing a suitable, helpful library and administering it intelligently so that it may benefit the entire school and community is a real problem. Nevertheless, it is not as difficult of solution now as it once was; for there are sources in the State and outside to which the school can go for information and aid. The first of these, naturally, is the Office of the Superintendent of Public Instruction which is giving careful thought to every matter which pertains to the development of the State's school system.

The second is the North Carolina Library Commission which has as its special work the extension of library interests of all kinds in North Carolina. Its function in matters connected with libraries is similar to that of the office of the Superintendent of Public Instruction in matters connected with schools, except that its relation is only advisory. It was created by the General Assembly of 1909 and has a public office in the State Library Building at Raleigh. It also has a regular Secretary, Miss Minnie W. Leatherman, State Library, Raleigh, N. C., who is always at the service of persons in the State who are interested in library extension. Requests addressed to Miss Leatherman at Raleigh, or to myself at Chapel Hill, will receive prompt attention. Through the Commission information may be received concerning lists of reference books, debate helps, supplementary readings, periodicals, etc., and suggestions may be made as to methods of simple library administration. If it is advisable, the Secretary can visit the school and give personal attention to questions which may demand special consideration. The Commission also publishes the *North Carolina Library Bulletin,* a quarterly devoted to library interests. It will be glad to send this publication free to any school upon request.

Information can also be obtained from the following institutions and publications:

American Library Association Publishing Board, Chicago, Ill.

Bureau of Education, Washington, D. C.
Carnegie Library of Atlanta, Atlanta, Ga.
New Jersey Library Commission, Trenton, N. J.
Newark Public Library, Newark, N. J.
New York State Library, Albany, N. Y.
University of North Carolina Library, Chapel Hill, N. C.
Wisconsin Free Library Commission, Madison, Wis.

American Library Association—*Catalogue*—Superintendent of Public Documents, Washington, D. C., $1.00. Contains annotated list of 8,000 volumes suitable for public library. Indispensable to any library.

Bostwick—*American Public Library.* Appleton, New York, N. Y., $1.50. A splendid recent handbook of library information.

Carnegie Library of Pittsburgh—*Graded Annotated Catalogue of Books for Use in Schools.* Carnegie Library of Pittsburgh, Pittsburgh, Pa., 50 cents.

Dana—*Library Primer.* Public Libraries, Chicago, Ill., $1.00. Contains list of reference books and is invaluable as a library aid.

Kroeger—*Guide to Reference Books.* American Library Association Publishing Board, Chicago, Ill., $1.50. Contains splendid list of reference books and gives instruction in their use.

Stearns—*Essentials of Library Administration.* American Library Association Publishing Board, Chicago, Ill., 15 cents. A very valuable book on library methods.

ACCREDITED SCHOOLS

NAME AND LOCATION OF SCHOOL	SUPT. (S) OR PRIN. (P)	GRADE
Appalachian Training School (Boone, N. C.)	B. B. Dougherty (s)	B
Asheboro Graded School High School Department.	O. V. Woosley (s)	B
Asheville City High School	R. J. Tighe (s) R. V. Kennedy (p)	A
Baird's School (Charlotte)	J. G. Baird (s)	A
Bingham School (Asheville)	R. Bingham (s)	A
Bingham School (Mebane)	Preston Lewis Gray (s)	A
Buie's Creek Academy (Buie's Creek, N. C.)	J. A. Campbell (p)	A
Burlington Graded School High School Department.	George C. Singletary (s)	B
Canton Graded School High School Department.	R. D. McDowell (s)	B
Cary Public High School	M. B. Dry (p)	B
Chapel Hill Public High School	W. H. Rhodes (p)	B
Charlotte City High School	Alexander Graham (s) H. P. Harding (p)	A
Clemmons High School (Clemmons)	James F. Brower (p)	B
Concord Graded School High School Department.	A. S. Webb (s)	B
Donaldson Military School (Fayetteville, N. C.)	S. M. Reed and J. M. McFall (p)	A
Dallas Public High School	M. S. Beam (p)	B
Durham City High School	W. D. Carmichael (s) E. J. Gree (p)	A
East Durham Public High School	H. C. Barbee (p)	B
Edenton Graded School High School Department.	R. H. Bachman (s)	B
Elizabeth City High School	S. L. Sheep (s) D. W. Simmons (p)	A
Farmville Public High School	H. H. McLean (p)	B
Fayetteville Graded School High School Department.	W. S. Snipes (s)	B
Fremont High School	M. T. Edgerton (s)	B
Gastonia Graded School High School Department.	Joe S. Wray (s)	B

Goldsboro City High School	Joseph E. Avent (s) E. E. Smith (p)	A
Greensboro City High School	J. L. Mann (s)	B
Greenville Graded School High School Department.	H. B. Smith (s)	B
Hickory Graded School High School Department.	Charles M. Staley (s)	B
High Point Graded School High School Department.	Harry Howell (s)	B
Henderson Graded School High School Department.	J. T. Alderman (s)	A
Hendersonville Graded School High School Department.	R. M. Ivins (s)	B
Holly Springs Public High School	K. H. McIntyre (p)	B
Jamestown Public High School	E. J. Coltrane (p)	B
Kinston City Public High School	Bruce Craven (s) E. C. Willis (p)	A
Laurinburg Graded School High School Department.	Edwin D. Pusey (s)	B
Lenoir Graded School High School Department.	J. L. Harris (s)	A
Lexington Graded School High School Department.	A. H. Jarratt (s)	B
Lincolnton Graded School High School Department.	Barron P. Caldwell (s)	B
Lumberton Graded School High School Department.	R. E. Sentelle (s)	B
Mars Hill College (Mars Hill)	R. L. Moore (President)	A
Mast Seminary (Mast, N. C.)	T. E. P. Woods (p)	B
Monroe Graded School High School Department.	L. P. Wilson (s)	A
Morganton Graded School High School Department.	E. M. Hairfield (s)	B
Mt. Olive Graded School High School Department.	C. R. Spencer (s)	B
Mt. Pleasant Collegiate Institute (Mt. Pleasant, N. C.)	G. F. McAllister (p)	A
Murphy Graded School High School Department.	J. H. Harwood (s)	B
Nebo Public High School	G. H. Weaver (p)	B
New Bern City Schools High School Department.	H. B. Craven (s)	B
Oak Ridge Institute (Oak Ridge)	J. A. and M. H. Holt (p)	A
Plymouth Graded School High School Department.	C. J. Everett (s)	B

Raleigh City High School	F. M. Harper (s) Hugh Morson (p)	A
Reidsville Graded School High School Department.	S. G. Harden (s)	B
Rich Square Public High School	E. C. Ruffin (p)	B
Rocky Mount Graded School High School Department.	Z. D. McWhorter (s)	B
Roxboro Graded School High School Department.	R. H. Burns (s)	B
Salemburg Academy (Salemburg)	W. J. Jones (p)	B
Salisbury City High School	A. T. Allen (s) N. V. Taylor (p)	A
Sanford Graded School High School Department.	R. W. Allen (s)	B
Scotland Neck Graded School High School Department.	J. B. Aiken (s)	B
Shelby Graded School High School Department.	R. T. Howerton (s)	B
Southern Pines Public High School	William F. Allen (p)	A
Tarboro City High School	R. G. Kittrell (s) R. M. Davis (p)	B
Tinsley Military Institute (Winston-Salem, N. C.)	J. W. Tinsley, Headmaster	B
Trinity Park School (Durham, N. C.)	S. B. Underwood, Headmaster	A
Wadesboro Graded School High School Department.	J. H. McIver (s)	B
Warrenton High School (Warrenton, N. C.)	John Graham (p)	A
Warsaw Public High School	B. I. Tart (s)	B
Washington City High School	N. C. Newbold (s)	B
Waynesville Graded School High School Department.	W. C. Allen (s)	B
Weldon Graded School High School Department.	John D. Everett (s)	B
Whiteville Public High School	W. R. Smithwick (p)	B
Whitsett Institute (Whitsett)	W. T. Whitsett (President)	A
Wilmington City High School	J. J. Blair (s) O. A. Hamilton (p)	A
Winston City High School	R. H. Latham (s) L. Lea White (p)	B

Schools that require for graduation 14 or more units in the subjects which the University accepts for entrance are graded A in the foregoing list; those completing 12 units or more, but not as many as 14, are graded B. Some of the schools graded A do not quite complete the definite requirements for unconditioned entrance in one or two particular subjects. For instance, several of the schools do not complete solid geometry nor quite all of the Latin required, and students entering from such schools, although they may have full 14 units to their credit, are required to make good any deficiencies in the subjects they offer for entrance.

A later number of the BULLETIN will contain a list of the University's accredited schools and their credits in the several subjects expressed in terms of units.

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